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Mr. James A. Saric
Remedial Project Manager
USEPA Region 5
77 West Jackson Boulevard (SR-6J)
Chicago, IL 60604-3507

SEDIMENTS

Subject:
Conceptual Design Report
Bank Removal and Restoration – Plainwell No. 2 Dam Area
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site

Date:
November 4, 2008

Contact:
Michael J. Erickson, P.E.

Phone:
810.225.1924

Email:
michael.erickson@
arcadis-us.com

Our ref:
B0064539

Dear Mr. Saric:

On behalf of the Kalamazoo River Study Group (KRSG), please find enclosed the Conceptual Design Report for Bank Removal and Restoration in the Plainwell No. 2 Dam Area.

KRSG is proposing a continuation of the Time Critical Removal Action (TCRA) implemented at the former Plainwell Impoundment, to also accomplish the excavation and off-site disposal of 13,300 cubic yards of river bank soil and 800 cubic yards of sediment from the Plainwell No. 2 Dam Area. The proposed plan is designed to utilize many aspects of the Plainwell Impoundment TCRA design, for efficiency in project planning, approvals, and implementation.

We look forward to working with USEPA, MDEQ, and the Natural Resource Trustees toward implementation of this project. It is KRSG's goal is to commence removal activities in 2009 as soon as possible following development and approval of appropriate plans by USEPA, MDEQ, and the Natural Resource Trustees. KRSG will work collaboratively with the Agencies through the necessary administrative, technical planning, and public communication steps. It is anticipated that the schedule for these activities and the start date for commencing removal activities will be developed following discussion of this conceptual design report with the Agencies.

Sincerely,

ARCADIS

Michael J. Erickson, P.E.
Associate Vice President

Copies (w/enclosures):
Paul Bucholtz, MDEQ
Samuel Borries, USEPA
Sharon Hanshue, MDNR
John Bing-Canar, USEPA
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ARCADIS
Infrastructure, environment, facilities

Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site

Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Kalamazoo River Study Group

November 2008

ARCADIS

Michael J. Erickson, P.E.
SRI/FS Project Coordinator

Stephen D. Garbaciak Jr., P.E.
Vice President

Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site

Prepared for:
Kalamazoo River Study Group

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Our Ref.:
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Tables

Figures

Appendices

1. Purpose and Scope of the Conceptual Design Report

The Plainwell No. 2 Dam Area is located on the Kalamazoo River approximately 3.5 miles upstream of the former Plainwell Dam in the city of Plainwell and Gun Plain Township, Allegan County (Figure 1). The Plainwell No. 2 Dam is a series of four historical structures constructed to partially divert the Kalamazoo River through the Plainwell mill race. The mill race and the Kalamazoo River encircle the City of Plainwell, giving Plainwell its identity as the "Island City." State and local officials have expressed intentions to leave the Plainwell No. 2 Dam structures in place to continue to provide flow through the mill race and preserve the character of the city.

The Plainwell No. 2 Dam Area was a focus area of the recent sampling and investigation work conducted in Area 1 of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (the Site or Superfund Site) as described in the United States Environmental Protection Agency (USEPA)-approved *Supplemental Remedial Investigation/Feasibility Study Work Plan – Morrow Dam to Plainwell Dam* (Area 1 SRI/FS Work Plan; ARCADIS BBL 2007a). Phase 1 of that work, the delineation of the frequently inundated area of the floodplain upstream of the dam, was summarized in a January 2008 letter to USEPA (Erickson 2008a). Subsequently, a Phase 2 Work Plan was developed in cooperation with USEPA to more intensively sample the Plainwell No. 2 Dam Area. That work plan was submitted to USEPA on April 17, 2008 (Erickson 2008b), and approved by USEPA on May 7, 2008. The Phase 2 sampling, completed in 2008, provides the bulk of the data used in this report. Limited other data collected in 2000 as part of investigation activities for the Kalamazoo River are available for this area and were incorporated as appropriate.

Results of the Phase 2 supplemental remedial investigation (SRI) for the Plainwell No. 2 Dam Area indicate that inventories of polychlorinated biphenyls (PCBs) reside in bank soils that may represent a potential source of PCBs to the river as a result of bank erosion. To address the potential migration of PCBs from banks to the river, the Kalamazoo River Study Group (KRSG) is proposing a continuation of the Time Critical Removal Action (TCRA) implemented at the former Plainwell Impoundment to remove and stabilize targeted river banks in the Plainwell No. 2 Dam Area. This action would be a positive continuing step forward in the ongoing investigation and remediation of the Superfund Site. The basis and approach for this concept are presented in this *Plainwell No. 2 Conceptual Design Report.* This conceptual design will be modified and further developed based on input and coordination with the agencies and natural resource trustees.

1.1 Plainwell No. 2 Dam Background

1.1.1 Location, History, and Purpose

The Plainwell No. 2 Dam consists of four separate remnant structures—a waste gate structure, a right diversion structure, a left diversion structure, and a head gate structure — all of which were initially constructed in 1856 by the Plainwell Water Power Company[1]. Earthen embankments, approximately 2,520 feet in total length, are also present to connect two diversion structures. These right and left diversion structures consist of concrete spillway gate bays and a concrete spillway, respectively (no gates remain in the right diversion structure). An earthen embankment connected the left abutment of the left diversion structure and the head gate structure (United States Army Corps of Engineers [USACE] 1979). The diversion structures direct water from the main stem of the river into a mill race/power canal that was once used to generate water power for a flour mill, the City of Plainwell, and several other businesses.

The head gate and waste gate structures in the power canal were formerly used to regulate the head and discharge through the powerhouse. The head gate structure consists of a concrete spillway with no control devices. The waste gate structure consisted of two sluice ways for which the gates are no longer in place (USACE 1979).

The Plainwell No. 2 Dam did not significantly alter the shape or surface area of the river, nor did it create lake-like impoundments as in the case of downstream former dams. It did serve to alter flooding characteristics of the river to some degree upstream of the dam.

According to the Michigan Department of Environmental Quality (MDEQ), the dam and associated structures were partially removed in the early 1980s such that there is no longer any "significant amount of water" (Hayes 1998a) impounded in the area. The waste gate structure's lift gate and stoplog guides were still present in 1980, and at that time there were no active operational procedures in place other than to permanently leave all discharge control structures adjusted so that they would permit maximum discharge capacity (USACE 1979). It was the opinion of the Michigan Department of Natural Resources (MDNR) that the dam "will not significantly impound any water that would pose a hazardous condition to the public safety" (Cook 1980).

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[1] Documentation of any subsequent construction activities is not available.

In 1979, the Plainwell No. 2 Dam was classified as a small size dam with high hazard potential in accordance with the National Dam Safety Program Criteria (USACE 1979). Following the partial removal of the dam and associated structures in the 1980s, the dam was reclassified as a low hazard potential (Hayes 1998b). The primary continuing purpose of the remaining structures is to maintain flow through the mill race/power canal, which along with the Kalamazoo River, encircles the city of Plainwell and gives it the name "Island City."

1.1.2 Ownership

Based on preliminary research performed by the KRSG (Erickson 2008c), it appears that the Plainwell No. 2 Dam waste gate structure is owned by the City of Plainwell and the remaining three structures (i.e., head gate, left and right diversion structures) are owned by the State of Michigan. The State of Michigan also appears to own land upstream of the most upstream structure of the Plainwell No. 2 Dam and along portions of the mill race (Figure 2). Information compiled by KRSG concerning ownership has been communicated to the MNDR (Erickson 2008c); however, more definitive determination of current ownership of the dam structures and adjacent and upstream properties may be needed.

1.2 Plainwell No. 2 Dam Remedial Investigation Summary

As part of the Phase 1 SRI for Area 1, field work in the Plainwell No. 2 Dam Area began in late 2007. This reconnaissance work included surveys of floodplain transects to better determine floodplain topography as well as elevations of dam structures and abutments for comparison to reported elevations from historical survey information. The estimated extent of the historically inundated area upstream of the diversion structures was estimated and mapped based on those survey data and historical air photos, terrain, soil characteristics, physical observations, and vegetation types to determine locations for survey and PCB sampling. A letter report, which included the survey data and a description of the development of the historically inundated area was submitted to USEPA on January 22, 2008 (Erickson 2008a).

As a result of this Phase 1 effort, KRSG voluntarily recommended expanding the investigations, expedited the schedule for additional sampling work in the Plainwell No. 2 Dam Area, and worked collaboratively with the USEPA and MDEQ to determine locations for floodplain sampling, bank soil sampling, and sediment sampling that were selected based on the reconnaissance information and other considerations. KRSG adopted a floodplain soil sampling grid proposed by MDEQ, and samples were collected and analyzed according to the KRSG's April 17, 2008 sampling plan (Erickson 2008b). Activities completed according to that work plan included:

- Collecting soil samples at 94 locations from a uniform grid in the floodplain, including sampling of in-stream islands
- Surveying 78 bank profiles and 22 river transects;
- Collecting 78 top-of-bank soil cores corresponding to the 78 bank profile locations
- Probing sediment across the 22 river channel transects
- Collecting 57 sediment cores at locations along the river transects
- Collecting three sediment cores at locations specified by USEPA in suspected depositional areas
- Monitoring water levels at three temporary staff gages to support hydraulic analyses
- Assessing habitat in the Plainwell No. 2 Dam area

Data summary tables, data plots, and maps of the PCB results from the expanded Plainwell No. 2 Dam Area Investigation, along with results of the limited number of previous samples from this area, were submitted to USEPA on September 26, 2008 (ARCADIS 2008a). The updated Site database, including the Plainwell No. 2 Dam Area data, was provided to USEPA and MDEQ on October 10, 2008 (ARCADIS 2008b). Bank profile survey data and photographs were provided to the Agencies along with more detailed maps of PCB data in soils and sediments on October 20, 2008 (ARCADIS 2008c). These data are briefly summarized below.

1.2.1 Topography and Channel Cross Sections

Extensive topographic survey data were collected in 2007 and 2008 in the Plainwell No. 2 Dam Area. Within the floodplain, elevations were surveyed at 94 locations in a grid corresponding to soil sampling locations, as well as along several floodplain transects located to address data gaps and augment previous survey data. Along the Kalamazoo River and in the former oxbow upstream of the diversion structures (see Figure 2), bank profiles were surveyed at 78 locations (i.e., both banks along 39 cross-channel transects). Bank elevations were surveyed at several points from the toe of the bank to a location past the top of the bank in the floodplain (or above the floodplain where topography adjacent to the banks is steeper). Bank profiles are presented in Appendix A. At 22 of the cross-channel transects bank profile locations (approximately every other transect), the entire transect across the river was surveyed to provide channel bathymetric data. The floodplain and river transect survey data allowed for the development of

a topographic contour map of the river and its floodplain using an irregular triangular network (TIN) generated using Terramodel modeling software with a vertical resolution of 0.5 foot. The Plainwell No. 2 Dam Area is characterized by low relief in most of the floodplain and a relatively abrupt steep edge of the floodplain valley. The topographic map and several select valley cross-sections illustrating the terrain in the Plainwell No. 2 area are presented in Appendix B.

At the 22 cross-channel transects, the sediment was probed and surveyed at eight to ten locations per transect. At each probing location, depth of water and sediment thickness was noted, and geographic coordinates were surveyed. Water surface elevation was surveyed once per transect. Figures showing cross sections of each river transect were submitted to USEPA along with the sediment PCB data on September 26, 2008 (ARCADIS 2008a).

1.2.2 Soil PCB Concentrations

Four to six soil samples were collected at each of the floodplain grid locations and at the top-of-bank locations at each bank profile, resulting in a total of 567 samples from 172 locations. A summary of the PCB soil data is presented in Table 1 (below) – a more detailed presentation of the data is shown in Table 2.

Table 1 - PCB Soil Data – Summary Statistics

Data Type	Number of Samples	Range (mg/kg)	Median (mg/kg)	Average (mg/kg)	90th Percentile (mg/kg)
Floodplain soils	302	ND – 60 J	0.093	1.5	3.3
Bank soils	265	ND – 45	0.18	3.0	8.3

Notes:
1. mg/kg = milligrams per kilogram
2. J = Estimated value
3. Duplicate samples averaged

Graphical analyses of these results were performed to assess the distribution of PCBs, including evaluations of cumulative frequency distributions, and correlations of PCB concentrations with sample depth, distance from shore, and elevation. These analyses were submitted to USEPA on September 26, 2008 (ARCADIS 2008a). The soil sample locations and PCB results are shown on Figure 3 (floodplain) and Figure 4 (top of bank). The maximum PCB concentration at each soil sample location is shown on Figure 5.

Cumulative frequency distributions for PCB concentrations in bank and floodplain soils for specific sample depth intervals are shown in Figure 6, and PCB concentrations for the bank

soils and the floodplain soils are compared in Figure 7, which shows PCB concentrations plotted at the mid-point of the depth interval of each sample. The majority of bank and floodplain soil PCB concentrations above 5 mg/kg are observed in the top 12 inches of soil. Five samples from the 12 to 24-inch depth interval contained PCB greater than 5 mg/kg, four of these are bank soil locations and one is a floodplain soil location located relatively near the bank (Sample location P2FP-069).

Additional detail on the floodplain and top of bank soil data is presented below.

Floodplain Soils

Floodplain soil samples were collected from a total of 95 locations and PCB data are available from 302 individual samples (duplicate samples averaged). Floodplain soil cores were collected, segmented into the 0- to 6-inch depth interval, 6- to 12-inch depth interval, and subsequent one-foot depth intervals to the bottom of the core, and analyzed for PCB. In addition, all surface soil samples were analyzed for TOC and particle size distribution. Sample locations are shown in Figure 3.

Generally, PCB concentrations were found to be higher in floodplain soils closer to the river than those further landward. PCB concentrations greater than 5 mg/kg tend to occur in the top 12 inches of soil, with distinctly lower concentrations in deeper samples.

Top of Bank Soils

Top-of-bank soil cores were collected from a total of 78 locations, resulting in 265 samples analyzed for PCB (duplicate samples averaged). Top-of-bank sample locations are shown on Figure 4. Top-of-bank soil cores were segmented into the 0- to 6-inch depth interval, 6- to 12-inch depth interval, and 12- to 24-inch depth interval and submitted for laboratory analysis of PCB. In addition, all surface samples (0- to 6-inch interval) were analyzed for TOC and particle size distribution. PCB levels greater than 5 mg/kg occur intermittently along the banks and typically within the top 12 inches of soil. Only four bank soil samples with PCB greater than 5 mg/kg occur in the 12 to 24 inch depth interval.

1.2.3 Sediment PCB Concentrations

Sediment samples were collected from a total of 60 locations, and PCB data are available for 267 individual samples (duplicate samples averaged). Sediment cores were collected, segmented into the 0- to 2-inch depth interval, 2- to 6-inch depth interval, 6- to 12-inch depth interval, and subsequent one-foot depth intervals to the bottom of the core, and analyzed for

PCB. In addition, samples from 20% of the cores (59 samples total) – selected at random in the field – were analyzed for TOC and particle size distribution. Sample locations and all PCB data are shown in Figure 8. The maximum PCB concentration at each sample location is shown on Figure 9.

Analyses of these sediment data were performed to assess the distribution of PCBs in sediment, including evaluations of cumulative frequency distributions and correlations of PCB concentrations with sample depth, distance from shore, and elevation. These evaluations were summarized and submitted to USEPA on September 26, 2008 (ARCADIS 2008a). A summary of the PCB sediment data is presented in Table 3 (below) – a more detailed presentation of the data is shown in Table 4.

Table 3 – PCB Sediment Data – Summary Statistics

Data Type	Number of Samples	Range (mg/kg)[1]	Median (mg/kg)	Average (mg/kg)	90th Percentile (mg/kg)
River sediment	198	ND – 42J	0.058	0.68	0.96
Oxbow sediment	53	ND – 100J	0.19	5.0	11
Agency-directed samples in sediment deposits[2]	16	ND – 1.9 J	0.44	0.69	1.7

Notes:
1. mg/kg = milligrams per kilogram
2. USEPA requested sediment core collection at three locations (16 total samples) in areas of fine-grained sediment along the banks
3. Duplicate samples averaged

PCB concentrations in sediment were generally low (less than 1 mg.kg), with isolated higher concentrations in localized deposits of fine-grained sediment along the banks and at the mouth of the former oxbow. These higher PCB concentrations (i.e., greater than 5 mg/kg) are limited to the top 6 inches of sediment; only one sample with PCB greater than 5.0 mg/kg occurred deeper than six inches. In total, PCBs were not detected in 51% of the samples, and were less than 1.0 mg/kg or not detected in 221 out of 267 samples (83%). Only 8 out of 267 samples contained PCB greater than 10 mg/kg – six of these were from the oxbow, and three of those oxbow samples occurred at the same location. The oxbow was the only place where there was a sample with PCB greater than 50 mg/kg – a concentration of 100 mg/kg was observed in a sample from P2RT-6-2 at the mouth of the oxbow.

The cumulative frequency distribution for PCBs in sediment is shown in Figure 10, and the PCB data for the oxbow and the river channel sediment are compared in Figure 11, which

shows PCB concentrations plotted at the mid-point of the depth interval of each sample. All eight of the PCB concentrations greater than 10 mg/kg occurred in fine grained sediment and were confined to the upper foot of sediment; seven of these eight samples were from the 0- to 6-inch interval. Probing indicated that the presence of fine-grained sediment, where observed, is generally confined to the near shore areas, and in the non-flowing quiescent areas of the oxbow. For example, P2RT-6-2 in the oxbow, where the highest sediment PCB concentration was observed, was located only 3 feet from the edge of water.

The sediment from the oxbow generally had higher PCB concentrations than the river channel sediment, as well as higher TOC content, a lower percent solids, and a higher silt and clay content. This is reflective of the non-flowing, shallow-water environment. The organic nature of the oxbow sediment is also reflected in the TOC-adjusted PCB concentration which overall averages 2.4 mg PCB/kg TOC compared to 12 mg PCB/kg TOC observed in the river sediment. Therefore, even though there are isolated occurrences of elevated PCB in the oxbow, these concentrations do not necessarily translate to increased bioavailability.

1.2.4 Bank Conditions and Profiles

Detailed bank profiles were surveyed at 78 individual locations. At each profile, the top of bank, slope of bank, and toe of bank under the surface of the water was surveyed, as well as at least one point beyond the top of bank to reflect the general topography of the floodplain. The bank was also photographed at each profile location, with the exception of profiles located in the oxbow. Appendix A contains figures showing each bank profile in cross section, the estimated water level at median flow the associated bank soil sample PCB data, as well as the photograph of each bank location.

The estimated water level at median flow is based on the median daily average flow (758 cubic feet per second [cfs]) at Comstock recorded by the United States Geological Survey (USGS) between 1931 and 2008. The water elevations corresponding to a flow at 758 cfs at the upstream end of the Plainwell No. 2 Dam Area and at the diversion structure of the dam were estimated using discharge-elevation data from staff gages, and intermediate elevations were interpolated for each bank profile assuming a constant slope between the two gage locations.

In general, the river banks in the Plainwell No. 2 Dam Area are low and gentle in slope. The bank height, calculated as the difference between the estimated median water elevation and the surface elevation of the top-of-bank soil, ranged from six inches to eight feet, with an average of 1.6 feet. Of the 59 locations surveyed along the river itself (excluding the former oxbow) the bank height was less than two feet at 49 locations. Additionally, as can be seen in Appendix A, the ground elevation is highest at the top of the bank in many locations

(particularly on the north side of the river) and decreases moving away from the river into the floodplain.

The bank slopes were calculated for the banks along the river based on the surveyed profiles. Excluding the former oxbow locations and the two most upstream profiles at the railroad bridge (due to the presence of stone footers), the bank angle (in degrees from horizontal), ranged from -3° to 84°, with an average of 29°. The calculated bank angle was less than 45° (i.e., 1H:1V) at 83% of the locations, and was 30° or less at 58% of the locations. Characteristics of the banks are summarized in Table 5.

As an overall characterization of the banks of the Kalamazoo River in the Plainwell No. 2 Dam Area, the erosion potential was rated for each bank profile locations using the Bank Erosion Hazard Index (BEHI) methodology developed by Rosgen (2006). The BEHI methodology utilizes five primary variables to predict erosion:

- Ratio of bank height to bankfull height
- Ratio of root depth to bank height
- Root density
- Bank angle
- Surface protection

The Rosgen bank characteristics for the bank profile locations are presented in Table 5. Measurements of bank height, bankfull elevation, and bank angle for the Kalamazoo River in the Plainwell No. 2 Area were derived from the bank profile survey data. Root depth, root density, and bank surface protection characteristics were determined from photographs of the bank at each transect location. The characteristic values for each transect were summed to provide the numerical BEHI scores, which can be compared to determine relative erodability of the various bank segments represented by each bank profile location. (Due to the lack of river flow through the oxbow, banks in the oxbow were not evaluated for erodability. Two bank locations at stone footers of a railroad bridge were also not evaluated.)

1.2.5 Habitat Assessment

A habitat characterization was performed for the banks and adjoining floodplain in the Plainwell No. 2 Dam Area. The evaluation was conducted during an onsite visit by observing habitat types in representative areas and classifying those habitats based on hydrologic conditions and vegetative assemblages. Spatial vegetation changes observed on aerial photographs were

used to define the limits of the identified habitats within the assessment area. In addition, representative sample plots were established in forested habitats to quantify the number, species, and diameters of trees present in these habitats.

The assessment area was found to contain three primary community types: emergent wetland, floodplain forest, and upland hardwood forest. The majority of the banks in the Plainwell No. 2 Dam Area exhibited floodplain elevations at or slightly higher than the top of bank elevations, resulting in floodplain wetlands that were defined by the dominance of either emergent herbaceous vegetation or trees. The occurrences of upland forest habitats resulted from elevated bank areas associated with man-made berms or the steep slopes of the mill race. The observed wetland and upland habitats, as well as summaries of the metrics measured are described in Appendix C.

1.3 Removal Action Objectives and Summary of Work to be Performed

After considering the data available for the former Plainwell Impoundment, USEPA determined that a TCRA was necessary to accomplish the specific removal action objectives identified in the *Former Plainwell Impoundment Time-Critical Removal Action Design Report* (TCRA Design Report; ARCADIS BBL 2007b), which was approved by USEPA in February 2007. Based on available data for the Plainwell No. 2 Dam Area, the KRSG's assessment is that there is a potential for eroding banks in the area to serve as a source of PCBs to the river. To address this potential source, the KRSG proposes an action primarily focused on the removal and stabilization of targeted river banks in the Plainwell No. 2 Dam Area (and one sediment deposit) as a continuation of the TCRA being implemented at the former Plainwell Impoundment. Using the TCRA as a model, specific removal action objectives for the proposed effort in the Plainwell No. 2 Dam Area are listed below, and data and information detailing the basis for these objectives is outlined in later sections.

1. Stem the potential loading of PCBs to the Kalamazoo River from river banks in the Plainwell No. 2 Dam Area.

2. Dispose removed PCB-containing bank soils and sediment in a way that does not present unreasonable risk to human health or the environment.

3. Remove a sediment deposit located at the mouth of the former oxbow channel which yielded a sample with a PCB level of approximately 100 mg/kg.

4. Mitigate potential adverse environmental impacts of construction

5. Provide a measure of compensatory restoration for natural resource injuries caused by releases of PCBs from KRSG's facilities.

To accomplish these objectives, the conceptual design of the removal action includes the following specific elements of work to be performed (reference is made after each listed element as to where in this document the relevant information is addressed or discussed):

a) Removal of a defined area of sediments at the mouth of the former oxbow channel which yielded a sample with a PCB concentration of approximately 100 mg/kg.

   -- See Section 2.2 for a description and delineation of this removal area, and see Section 3.2 for a description of the removal operations.

b) Removal of PCB containing bank soils, with bank cutbacks to stable slopes and backfill of the removal areas to original grade.

   -- See Sections 2.1 and 2.2 for a delineation of the removal areas.

   -- See Sections 2.5 and 3.2 for a summary of how the materials will be removed and backfilled.

   -- See Section 4.1.4 for a summary of how excavation limits will be confirmed.

c) Disposal of PCB-impacted sediments and soils in licensed commercial landfills.

   -- See Section 3.4 for a description of how the excavated materials will be disposed.

This document includes channel cross-sections and plan views showing the extent of bank cutbacks necessary to achieve a stable and, to the extent feasible, natural channel design. The cutbacks include the excavation of the PCB-containing layer within at least 30 ft of the water line at 750 cfs (median flow), which, in conjunction with backfill of the removal areas to original grade, is designed to isolate any remaining PCBs from the new bank face. This conceptual design report includes agreed upon turbidity controls used as part of the Plainwell TCRA (silt curtains with deflector sheet pile and adaptive management techniques), designed to manage sediment and PCB releases. Also carried forward from the Plainwell TCRA design are the bank restoration designs, revegetation and stabilization methods for restored banks, and other monitoring and operation and maintenance (O&M) activities.

The final design and contract drawings will identify specific cross-section and plan view drawings of each removal area, revegetation plans, and other design details.

-- See Sections 2.9 and 3.5 for the conceptual approach for bank stabilization and revegetation, incorporating natural channel/bank design components to the extent feasible.

-- See Sections 4.1 and 4.3 for a summary of resuspension control monitoring and post-construction monitoring.

This design will be modified to provide some compensatory restoration for natural resource injuries caused by releases of PCBs from KRSG's facilities. Opportunities to enhance the human and ecological services provided by the natural resources within the vicinity of the project area will be identified and addressed by integrating these enhancements with the removal action scope. The compensatory restoration opportunities and specific design elements will be identified through communication with the natural resource trustees.

Supporting documents for implementation of this removal action will include project-specific amendments or updates as needed to the *Former Plainwell Impoundment Time-Critical Removal Action Construction Quality Assurance Plan* (ARCADIS BBL 2007c) and the *Traffic Control Plan* (ARCADIS 2007d) developed for the Plainwell TCRA, and the *Multi-Area Quality Assurance Project Plan* (Multi-Area QAPP; ARCADIS BBL 2007e), the *Multi-Area Field Sampling Plan* (Multi-Area FSP; ARCADIS BBL 2007f), and the Multi-Area Health and Safety Plan (Multi-Area HSP) (ARCADIS BBL 2007g) prepared for work at the Site.

2. Basis of Design

2.1 Bank Soils Removal Area Determination

The primary goal of the proposed removal action in the Plainwell No. 2 Dam Area is to stem the potential migration of PCBs from the river banks to the river. Bank soil removal areas were considered for potential removal based initially on PCB concentration and mass inventories in bank soils, bank type and their position in relation to the main stem of the Kalamazoo River. Due to the lack of flow in the river oxbow, bank soils along the oxbow have minimal potential to serve as a continuing source of PCB to the river and were not included in areas targeted for bank soil removal. Bank soil removal areas were considered for potential removal based initially on PCB concentration and mass inventories in bank soils, and bank type. Discrete segments of the river bank represented by the mid-points of bank soil sample locations and a distance 30 feet from the edge of water were defined (segment boundaries are shown in Figure 12). All data collected within 30 feet of the river were included in this analysis. In addition to the 78 top-of-bank soil samples collected in 2008, bank soil within 30 feet of the river is also represented by two top-of-bank soil locations from the 2007 Phase 1 SRI for Area 1 (KRT11-TB-A and KRT11-TB-B) and five of the floodplain grid sample locations sampled in 2008 (P2FP-001, P2FP-025, P2FP-053, P2FP-093, P2FP-094).

For each bank area, the PCB mass inventory at each bank soil sample location was calculated by multiplying the depth-weighted PCB concentration by the percent solids data and the volume of each location (the area of each location extended half the distance in each direction to the next sample location and 30 feet shoreward from the edge of the water). Segments were ranked according to PCB concentration and mass inventory; in addition the accessibility of each bank segment relative to other targeted segments, along with local topography and elevation, was considered in refining bank areas targeted for removal. These factors are discussed further in the sections below. The characteristics of the all the bank areas represented by samples within 30 feet of the river are presented in Table 6. The bank areas targeted for removal are denoted on Table 6 and shown on Figure 12.

In evaluation of the relative PCB mass inventories for the 61 individual bank segments along the river (excluding the oxbow banks and five locations along the mill race), correspondence between PCB mass inventory and core-maximum concentration was noted and initially all bank segments with a core-maximum PCB concentration of 5 mg/kg or greater were identified. This also provides equivalency with the soil PCB concentration of 5 mg/kg utilized for confirmation monitoring of bank soils in the Plainwell Impoundment Removal Action. In cases where this targeted isolated segments with low PCB mass inventory or segments discontinuous from other significant lengths of the bank with maximum concentrations greater than 5 mg/kg, those

segments were not targeted. This was the case for segments represented by samples P2BS-35 and P2BS-38. Balancing ecological impacts associated with constructing access to these isolated areas against the benefit of removal of the mass of potential PCB source material also weighed in favor of focusing removal effort on relatively contiguous larger sections of the banks.

Other segments containing maximum PCB concentrations less than 5 mg/kg were included in the removal plan because they are bounded by adjoining segments targeted for removal. These segments were included to avoid constructability issues associated with access to segments on either side of these areas by assuming constructed access for removal will pass by or through these areas. This resulted in the inclusion of segments represented by samples P2BS-09, P2BN-21, P2BN-29, P2BS-28, P2BS-29, P2BS-24, P2BN-36, and P2FP-093. Although the oxbow banks were excluded from the target removal areas (described in section 2.1), areas represented by river bank samples P2BN-10 and P2BS-10, located at the mouth of the oxbow, were included; in addition to containing maximum PCB concentrations greater than 5.0 mg/kg, these samples abut the only sediment proposed for removal.

Figure 12 shows the bank areas proposed for removal, as initially developed following the procedures described above. To evaluate the benefits of this approach, the estimated PCB mass removed along the river banks in the Plainwell No. 2 Dam Area was developed and plotted as shown in Figure 13, along with the depth-weighted and maximum PCB concentrations for each of the bank areas. The targeted removal areas have a total bank length of approximately 1.9 miles and an area of 6.4 acres, corresponding to about 54% of the total bank length and area. The targeted removal areas contain 89% of the total PCB mass in the Plainwell No. 2 Dam Area. The remaining 11% of the PCB mass will remain in the undisturbed 46% of the bank length. Final design volumes and areas may vary in response to localized conditions, such as elevation or access considerations.

As shown in Figure 12, the targeted removal areas will include all the sample locations where there were PCB concentrations greater than 5.0 mg/kg except for one location (sample location P2BS-35, PCB concentration of 13 mg/kg (located on the south bank along the outside of the first river bend in the Plainwell No. 2 Dam Area). The average depth-weighted PCB concentration of the areas targeted for removal is 6.8 mg/kg (maximum of 26 mg/kg), compared with an average of 1.4 mg/kg (maximum of 9.9 mg/kg) in the areas not targeted for removal. Excluding the 13 mg/kg sample, the average PCB concentration in the areas not targeted for removal is 1.0 mg/kg.

2.1.1 Soil Removal Depths

The sharp gradient in PCB concentrations with depth in the bank soils, and relatively shallow depth of PCB-containing soil allows defining removal depths that include the layer of soil containing any PCB concentration higher than 5 mg/kg. Removal depth increments of 0.5 feet were employed to provide efficient implementation with the same earthmoving equipment utilized in the TCRA. Soil removal depths for each targeted bank segment were selected by evaluating PCB concentrations in each core sample and specifying the depth that will remove the soil layer containing PCB concentrations greater than 5 mg/kg. Where high PCB concentrations (i.e., above 5 mg/kg) were encountered at the bottom of a core, the removal depth was established at 0.5 feet below the bottom. Using this method of analysis, it was determined that six sections would be excavated to a depth of 0.5 feet, seven sections to a depth of 1 foot, nineteen sections to a depth of 1.5 feet, two sections to a depth of 2 feet and two sections to a depth of 2.5 feet. Example cross-sections showing removal width and depth are provided in Figures 14A through 14H. The total estimated volume of soil removal based on these criteria is 13,300 cubic yards.

2.2 Sediment Removal Area Determination

Sediment PCB sampling results are summarized in Section 1.2.3, and a map of these data is provided in Figure 8. Sediment at the mouth of the oxbow feature yielded a sediment core with a PCB concentration of approximately 100 mg/kg in the 2- to 6-inch depth interval. This sediment core was collected at location P2RT-6-2, approximately 3 feet from the edge of water. Beneath the 2- to 6-inch layer, however, PCB concentrations decrease to 23 mg/kg in the 6- to 12-inch increment and 0.086 mg/kg in the 1- to 2-foot depth increment. A removal area was defined encompassing this sample to include the entire mouth of the oxbow area as shown in Figure 12. The area around location P2RT-6-2 will be over-excavated 6 inches below the bottom of the core segment containing PCBs above 1 mg/kg. Removal will be completed to a neat line to be established in the final design at an elevation at least 1.5 feet below the top of sediment elevation. The estimated volume of sediment to be removed is 800 cubic yards, and the estimated aerial extent is 0.25 acres.

2.3 Removal Area and Scope Summary

2.3.1 Removal Action Area

The downstream extent of the proposed removal action is the left diversion structure and the upstream limit of the proposed project is the railroad bridge located at the upstream end of the formerly inundated area. The majority of the project area falls within State-owned parcels of

land, as indicated by Allegan County Geographic Information System (GIS) parcel maps (Figure 2). Bank removal areas include one privately-owned parcel (Figure 2). The majority of parcels adjoining the State-owned property in the Plainwell No. 2 Dam Area are privately-owned, as is the center of the "island" that forms a portion of the oxbow feature.

2.3.2 Removal Scope Summary

The following table indicates approximate removal limits for bank and sediment target removal areas. Removal Areas are indicated in Figure 12. The total targeted soil removal volume is 13,300 cubic yards and the total sediment removal volume is 800 cubic yards.

Table 7 – Conceptual Removal Scope Summary

Removal Area	Bank Length (miles)	Bank Area (acres)	Bank Soil Volume (cubic yards)
Removal Area 1	0.16	0.57	1,100
Removal Area 2	0.15	0.51	1,200
Removal Area 3A	0.29	1.06	1,900
Removal Area 3B	0.22	0.77	1,800
Removal Area 4A	0.12	0.43	750
Removal Area 4B	0.10	0.35	960
Removal Area 5	0.21	0.74	1,100
Removal Area 6	0.18	0.64	1,400
Island 1	0.10	0.19	460
Island 2	0.34	1.18	2,600
TOTAL	**1.9**	**6.4**	**13,300**

2.4 Access and Staging Areas

Access roads will be constructed along the banks of the Kalamazoo River to allow access to work areas, and to several staging areas established to manage material storage, processing, and transport. Figure 15 presents a plan view of anticipated locations for access roads, staging areas, and project support areas. To the extent practicable, existing access points and roads will be used, and new access points will be added only as required and as property agreements allow. Approximately three access points to the Kalamazoo River (one from Riverview Road and two from Douglas Avenue) will be necessary to efficiently access targeted areas. Access points will ultimately be selected based on property owner negotiation, work area proximity, access improvement required, and traffic control considerations. A traffic control plan will be developed and appropriate traffic control measures implemented to manage traffic movement near the work areas as well as where and how truck traffic enters public roadways.

To maximize worker safety and to minimize disruption to the local community, the major material hauling and construction activities will be limited to daylight hours.

The network of access roads will be constructed to support safe and efficient travel of vehicles to execute the work. Access roads will be typically constructed from crushed stone (a portion of the material would likely be similar materials recycled from the Plainwell TCRA project) underlain with geotextile, but the specific composition of materials will depend on location-specific conditions (e.g., bearing capacity of underlying soils) and the type of traffic expected (e.g., off-road dump trucks for onsite transfer vs. tractor trailers for offsite transport). Improvements such as structural geotextile or mats may be necessary to bridge over soft or saturated soils. Tracked soils or sediments will be periodically removed from the access roads. Control measures such as using lined trucks, performing additional solidification, or reducing truck loads will be implemented where needed to minimize the loss of material while hauling.

Low ground pressure equipment for soil removal and hauling (e.g., tracked haulers) may be used in cases where access road construction may be less practical due to the limited bearing capacity of underlying soils. Due to geotechnical information needs and the seasonal variability associated with the strength of surface soils, field conditions will be assessed by the construction management staff during access road construction to determine the portions of the project area where the use of low ground pressure equipment would be appropriate.

Clearing and grubbing of vegetation from wooded areas will be necessary for construction of access roads and staging areas. Vegetation will be cleared only to the extent required to establish access roads, staging areas, the project support area, and sediment/soil excavations. Cleared vegetation will be chipped and used either as temporary vegetative cover to support erosion control efforts in the project area or as a sediment/soil solidification amendment. Larger trees (9-inch diameter at breast height or larger) removed during clearing activities will be limbed and piled in a location of the project area designated for that purpose by MDNR that will be accessible to MDNR after construction is complete. Root wads, to the extent possible, will be removed and disposed at a commercial landfill.

2.5 Removal Methods

Bank soil removal work (as well as follow-up bank stabilization and habitat construction) will be completed within six removal areas (Removal Areas 1 though 6), each being approximately 500 to 1600 feet long (see Figure 12). Additionally, soil from two islands (Islands 1 and 2) as well as sediment area at the mouth of the oxbow at Removal Area 5 will be removed as a part of the project.

The typical sequence of sediment and soil removal activities at a removal area is expected to proceed as follows:

- Complete construction of location-specific access, staging, and support areas for the removal area, as needed.
- Perform clearing and grubbing at the removal area.
- Install resuspension controls (as necessary), selected by the contractor based upon location-specific hydraulic conditions.
- Excavate sediments, bank soils, or islands as shown on the drawings using conventional earthwork equipment (e.g., excavators, dozers, front end loaders) working upstream to downstream.
- Gravity drain and stabilize soil/sediments at the staging areas as necessary to allow the transportation and disposal of the soils/sediments to commercial landfill facilities. Due to the limited space at the removal areas, sediment and soil materials will be placed directly into haul trucks for transport either directly to the commercial landfill (if the removed materials contain no free water) or to a staging area for dewatering and water treatment.
- Backfill and regrade the banks to the specified slopes (to be determined as part of the final design).
- Transport the dewatered soils/sediments from the staging area or removal area to a commercial landfill.
- Perform revegetation activities at the removal area, including the placement of topsoil, as necessary. If required due to seasonal constraints, install temporary measures such as seeding disturbed ground surfaces with native grasses to reduce erosion until weather/seasonal conditions allow for the complete installation of design-based planting or other habitat reconstruction measures.

Access to Islands 1 and 2 – Additional access development will be required to access bank soil located on Islands 1 (accessed from Removal Area 1) and 2 (accessed from Removal Area 4B). Island 1 will be accessed at the east end of the island from the north bank of the Kalamazoo River by constructing a temporary earthen berm. Conventional earthwork equipment will be used to remove the material from the island from west to east. Upon

completion of the soil removal activities on Island 1, the temporary earthen berm will be removed.

Island 2 will be accessed at the east end of the island from the south bank of the Kalamazoo River by constructing a temporary bridge comprised of H-piles, steel cross braces, and wooden crane mats. Due to the potential presence of soft or saturated soils, tracked haulers may be used for the hauling of soils excavated on Island 2. The reduced ground pressure of this type of equipment would allow the use of a less robust bridge structure to access Island 2. Upon completion of the soil removal and revegetation activities on Island 2, the temporary bridge will be removed.

Sediment Removal at Removal Area 5 – Sediment will be removed at the mouth of the oxbow in Removal Area 5 using a long-reach hydraulic excavator. The excavated sediment will be placed into an off-road haul truck for movement to a staging area.

2.6 Resuspension Controls

Removal of sediments and bank soils will take place within discrete areas enclosed by resuspension control structures. The extent of each removal area was developed to allow for the efficient and effective installation and maintenance of resuspension control structures, which are expected to remain in place while removal activities occur within the enclosed area. As the excavation crew approaches the downstream extent of the removal area, a second crew will begin the process of installing the resuspension control structures in the next downstream reach. This approach will facilitate the efficient movement of equipment as the project progresses downstream.

Resuspension controls will consist primarily of turbidity curtains that have dual center tension cables, are reefable for water depth variation adjustments, and are chain-weighted, anchor-weighted, or fastened directly to vertical posts. Where increased water velocities are anticipated, a headwall, comprised of temporary steel sheet piles may be installed to divert the flow of the river around the resuspension control system. The upstream end of Island 1 will likely require a headwall to be incorporated as a component of the resuspension control system.

2.7 Material Handling and Dewatering Requirements

Excavated sediments and bank soils removed below the water table will contain water due to their *in situ* saturated environments. Mechanically-excavated sediments will incorporate

additional water within the excavator bucket; it is assumed that the excavator bucket will typically contain 80% sediment mixed with 20% water by volume.

Wet excavated materials will be drained and stabilized at staging areas through gravity drainage, dry soil mixing, decanting, and the addition of solidification agents. In the staging areas where gravity drainage is used, the drainage water will be collected, treated, and discharged to the river. These staging/drainage areas will be bermed and lined with impermeable geosynthetic materials designed to collect and contain drainage water.

The primary solidification agent used during the project will be dry soil generated during the bank soil removal work. Gravity dewatering and the addition of dry soils may, by itself, eliminate free liquids. When necessary, a solidification agent may be added to excavated materials using a pug mill to remove any remaining free liquids. Observations made during the Plainwell TCRA construction activities indicate that Type I Portland Cement and Cement Kiln Dust (CKD) performed well as solidification agents. Specific percentages of reagent necessary to meet project requirements will be evaluated and determined in the field by an engineer as part of the construction oversight work.

Drained/solidified sediments will be tested periodically to determine if they pass the Paint Filter Liquids Test (USEPA SW-846 Method 9095A). This testing will occur at increased frequency (i.e., daily) during initial operations with the frequency of testing operations decreasing (i.e., weekly or monthly) as experience is gained with the draining and blending operations.

The treatment system for the drainage water will consist of mixing, flocculation (as necessary), settling (e.g., a settling basin or Baker tanks), multimedia filtration, and carbon adsorption. The multimedia filters and carbon adsorbers will be trailer-mounted and capable of movement to different staging areas as the soil excavation activities progresses downstream.

2.8 Disposal Facilities

A minimum of two disposal facilities will be used for disposal of removed soils and sediments as well as other waste generated by the removal action in Plainwell No. 2 Dam Area. The Fox River method will be used to define "TSCA material" and "non-TSCA material", as used on the Plainwell TCRA (Borries 2007). Wayne Disposal will be used for "TSCA material" while "non-TSCA material" will be disposed of at a commercial landfill. The landfills used for the TCRA project (C&C Landfill and Ottawa County Farms Landfill) will be considered for use for this project, along with other suitable commercial facilities.

2.9 Bank Stabilization and Habitat Enhancement Concepts

As operations are completed within a removal area, the banks will be stabilized and revegetated. The banks will be backfilled to the pre-removal elevation, graded, and stabilized to minimize bank erosion and provide banks suitable for habitat reconstruction. The amount and type of erosion protection will be selected for each area in final design based on geomorphic tendencies within the channel planform, water velocities, bank slope, and top of bank land use. Certain banks may require greater levels of protection than other areas that exhibit flat slopes exposed to lower water velocities with natural habitat at the top of bank. Some bank areas require combinations of bioengineered components to achieve desired levels of erosion protection; however, banks in the Plainwell No. 2 Dam Area have generally flat slopes and are expected to need minor stabilization measures.

In the least erosion-prone areas, there will be minimal physical manipulation other than the shaping of the slopes and establishment of appropriate ground cover. Slope stabilization at the toe of bank has the least impact on habitat, and will be used as much as possible. The use of field stone for erosion protection of the new banks will be incorporated only if necessary, and focused in areas such as the outer banks at meanders. Planting the interstices of a field stone bank treatment with woody vegetation can also reduce impacts. Field stone will be used below the water line for toe protection only to the extent necessary since toe failure by undercutting is the single most common cause of bank failure.

Bank areas where stone is not necessary or where only toe protection will be installed will be monitored to evaluate the need to apply adaptive management principles to respond to the natural tendencies of the river and to maintain the desired bank conditions. The goal of the stable bank design is to have the banks withstand the design flood without major damage. However, during such a flood event, deposition of sediment or debris, a combination of local or general scour, destruction of some vegetation, and even stone movement in riprap areas is not unexpected (Copeland et al. 2001). Destructive conditions detected during bank inspection monitoring may need to be addressed through the use of additional stone or by the installation of bioengineered or flow-controlling structures.

Habitat enhancements will be refined during the final design process in collaboration with the natural resource trustees and agency representatives.

3. Project Description

This section describes each major component of the project and the general sequencing of construction activities needed to achieve the goals of the project.

3.1 Mobilization and Site Preparation

Construction is anticipated to commence in the summer of 2009, with the mobilization and setup of equipment, materials, personnel, and facilities necessary to complete the project. A project support area, consisting of temporary trailers, material support areas, and equipment/vehicle parking areas, will be established to provide critical support services, such as field engineering, health and safety, construction management, worker sanitation, project-area security, and access control. An additional temporary office trailer will be installed at the project support area to provide administrative space for project-related activities for agency use. The temporary office trailers will be equipped with heat and electricity. Security fencing and access gates will be installed early in the mobilization process to protect materials and equipment, and deter unauthorized access to the project support area and potentially dangerous construction zones.

Other preparation activities will include installation of construction fencing with signage, staging area construction, survey and construction staking, installation of sedimentation controls, and installation of other work support facilities.

3.2 Soil and Sediment Removal Operations

After completion of preparation activities in the project area, upstream sediment and soil removal activities will begin, and are expected to be completed within a one-year period (two construction seasons, starting in the summer and completed during the following summer). Sediment and soil removal will progress from upstream to downstream in an alternating or simultaneous manner along both sides of the river.

3.3 Soil and Sediment Dewatering and Water Treatment

Although bank soils removed above the water table are expected to require minimal drainage or stabilization, it is anticipated that a portion of the materials excavated from the project area will require the use of both passive and active measures for water removal to allow efficient transportation and disposal. Also, water from precipitation and storm water flow will require control and potentially additional drainage efforts.

The treatment system for the drainage water will consist of mixing, flocculation (as necessary), settling (e.g., a settling basin or Baker tanks), multimedia filtration, and carbon adsorption. The multimedia filters and carbon adsorbers will be trailer-mounted and capable of movement to different staging areas as the soil excavation activities progresses downstream.

3.4 Transportation and Disposal

Drained soil and sediment will be transported via tractor trailers to a commercial landfill for disposal. Appropriate temporary erosion and sedimentation control measures (i.e., best management practices, including stabilized construction entrances and staging areas, good housekeeping practices), truck decontamination facilities, and necessary traffic controls (i.e., keeping truck traffic off impacted materials) will be implemented to minimize the potential for tracking impacted soil and sediment materials onto public roadways. A traffic control plan will be developed and implemented to manage truck routes, spacing, and the timing of truck traffic to reduce impacts on local roadways and communities. The plan will include reference to any local traffic or truck restrictions.

All impacted soil materials designated for disposal will be solidified to the extent necessary to pass a Paint Filter Test prior to leaving the site. Truck liners and/or sealed tailgates will be utilized to further reduce the potential of leakage of free liquids onto public roadways. Additional measures, such as truck bed covers and/or spraying down of soil materials with water prior to leaving the site, will also be implemented if necessary to control fugitive dust during transport to the commercial landfill. During soil removal activities, it is anticipated a maximum of 25 truckloads of dewatered soil and sediment material will be hauled from the project area a day.

3.5 Bank Stabilization and Habitat Enhancement

Adequate protection from erosion after construction will be provided throughout the disturbed bank areas primarily through the establishment of native vegetation. The establishment of vegetation along the river banks and in the riparian corridor will be accelerated by seeding and planting in accordance with the habitat types identified in the areas of disturbance. Where necessary, existing bank soil will be supplemented with imported top soil to ensure the viability of planted and seeded materials. Conceptual cross sections of the emergent wetland bank and floodplain forest are presented in Figures 16A and 16B, respectively.

Emergent Wetland Revegetation – The revegetation of emergent wetlands on the banks and in the floodplain along approximately 2,000 linear feet of bank will be accomplished using a seed mix of dense-rooting, hydrophytic plants to stabilize the bank under conditions of frequent inundation. A native seed mix will be used that will include the desirable species observed in

this habitat as well as other appropriate species to increase the vegetative diversity. The seed mix will be broadcast and worked into the topsoil before it is covered with a biodegradable erosion control fabric (North American Green SC150 or equivalent). The fabric will be installed per manufacturer's recommendations and may use dead or live stakes instead of metal pins to anchor the fabric in select areas. Live stakes of willow (*Salix* spp.) and/or dogwood (*Cornus* spp.) would be placed at 5-foot intervals, while maintaining some spatial randomness and mixture of species, to result in a density of approximately 1,700 stakes per acre. Use of live stakes will be limited to two rows near the water's edge to accelerate bank stability and natural succession, but prevent the shrubs from entirely dominating the emergent wetland plant community.

Floodplain Forest Revegetation – Revegetation of the approximately 7,000 linear feet of floodplain forests that occur at the top of bank and extend throughout the flat floodplain will be accomplished by seeding and planting woody trees and shrubs. This type of area will be prepared for revegetation through the creation of micro-topography (i.e., the soil surface will not be evenly graded but would have a hummocky topography), which will increase the diversity of soil moisture conditions typically found in natural riparian areas. A shade-tolerant wetland seed mix will be used to stabilize the surface soils during canopy development. Native trees and shrubs of the species observed in this habitat, as well as other species that typically inhabit and are adapted to periodic inundation, will be planted to a target density of 400 woody stems per acre, consistent with densities observed in tree plots surveyed during habitat characterization efforts (see Appendix C). Tree and shrub stock will consist of live cuttings, bare root plants, container stock, and/or root-balled trees that will be planted, supported, and protected from herbivory during the monitoring period.

3.6 Site Restoration and Demobilization

Upon conclusion of the construction activities in the project area, all equipment, facilities, and personnel will be systematically demobilized and removed from the project area. Construction-related debris or other remaining materials will be removed or disposed of properly, and any equipment or material decontamination that is necessary will be performed prior to its removal from the project area. Access roads and staging areas will be removed (unless the appropriate agencies determine they should remain in place) and their locations graded and seeded as necessary to create a vegetated surface that is compatible or consistent with the design elements employed during habitat construction.

3.7 Implementation Schedule

It is KRSG's goal is to commence removal activities in 2009 as soon as possible following development and approval of appropriate plans by USEPA, MDEQ, and the Natural Resource Trustees. KRSG will work collaboratively with the Agencies through the necessary administrative, technical planning, and public communication steps. It is anticipated that the schedule for these activities and the start date for commencing removal activities will be developed following discussion of this conceptual design report with the Agencies.

4. Environmental Monitoring

The removal action in the Plainwell No. 2 Dam Area is a proposed continuation of the successful implementation of the Plainwell TCRA. The approach to environmental monitoring outlined in this section is modeled after the environmental monitoring plan implemented for the TCRA.

4.1 Monitoring During Construction

4.1.1 Resuspension Monitoring and Control

The goal of the Resuspension Monitoring and Control element is to control increases in turbidity levels in the river attributable to removal actions to acceptable levels. Real-time turbidity data will be collected daily, using hand-held meters from upstream and downstream locations in a given work area. These assessments will be relative: downstream data will be compared to concurrent upstream data to identify increases in turbidity. In addition, inspections of the resuspension control systems will be conducted on a daily basis. In the event turbidity reaches unacceptable levels, a range of mitigation measures will be implemented based on the magnitude of the turbidity changes noted. Surface water samples will be collected for PCB analysis from locations upstream and downstream of removal areas on a weekly basis to monitor spatial and temporal trends in PCB concentrations.

Turbidity data will be collected from one location upstream and from two locations downstream of an active work area. For purposes of monitoring in-stream removal activities, the upstream location will be 200 feet from the upstream work limit, along the general flow path to the work area although the specific upstream location is subject to change based on field conditions. The two downstream locations will be 200 feet and 300 feet, respectively, from the downstream work limit along the river flow path. Turbidity readings will be collected from approximately mid-depth at all locations, and it is anticipated that a small boat will be used to access data collection points. Surface water PCB samples will be co-located with the upstream and furthest downstream turbidity monitoring locations.

Surface water samples collected for PCB analysis will be collected on a weekly basis from a currently active removal area. Whenever possible, sampling will be conducted on the same day of the week, and at approximately the same time during the day – samples will be taken two hours after the start of excavation activities for the particular day. If abnormal events occur, additional samples will be taken for PCB analysis.

4.1.2 Erosion Control

During active work periods and throughout the duration of the project, temporary erosion and sediment controls will be inspected and maintained and/or modified on a regular basis, consistent with the recommended frequencies outlined in the *Guidebook of Best Management Practices for Michigan Watersheds* (MDEQ, 1998). Temporary erosion and sediment controls will be maintained until revegetation activities have provided a final surface cover (as appropriate).

4.1.3 Dewatering System Discharge Monitoring

Treated effluents from the water treatment system will be sampled and analyzed to verify that the water meets appropriate standards for total PCBs (according to USEPA Method 608), TSS (according to USEPA Method 160.2), and total phosphorus (USEPA Method 365.3), prior to discharge into the Kalamazoo River. The Substantive Requirements Document (SRD) issued for the Plainwell TCRA will be amended as necessary to provide the same discharge monitoring program for the project.

4.1.4 Excavation Confirmation

After construction is believed to be complete within a removal area, confirmation monitoring will be performed to confirm that the design specifications have been achieved. Confirmation monitoring will be conducted in the individual construction areas immediately following completion of an area so that additional response actions, if necessary, can be taken immediately, while the equipment is nearby. Confirmation monitoring will vary according to the work area being monitored, and will follow the procedures used in the Plainwell TCRA. Design parameters that will be monitored include:

- Surface elevation in the oxbow sediment removal area

  Confirmation of the removal of sediments to the cut lines established during final design will be based on survey data collected from the excavated area. Excavation will be considered complete if the bottom elevation is shown to be within 6 inches of the cut line.

- PCB concentrations in the bank or floodplain surface soil

  For the bank soil removal areas, a nominal 75-ft long grid that is divided into 15- by 5-ft nodes will be established. Immediately following excavation of a bank or floodplain soil grid five nodes will be randomly selected for sampling. The random pattern may be modified in

the field (with concurrence of oversight personnel) if excessive bias exists within a grid. Soil samples will be collected from a depth increment of approximately 6 inches below the floor of the excavation, composited and submitted to the laboratory for PCB analysis. If the laboratory data confirm that the PCB concentration for the composite sample is less than or equal to 5 mg/kg, the excavation of the grid will be considered complete and no additional excavation will be required. If the PCB concentration is greater than 5 mg/kg, an additional 6 inches will be removed from the entire grid area. Soil samples will again be collected from five randomly selected grid nodes, composited, and submitted for laboratory PCB analysis. If the PCB concentration from the second round of sampling is less than or equal to 5 mg/kg, no further excavation of the area is required; however, if the PCB concentration is greater than 5 mg/kg, 6 inches of clean fill will be placed over the entire grid area, unless USEPA, in consultation with MDEQ and KRSG, determines that additional excavation should be conducted.

4.2 Habitat Monitoring

A qualified biologist will oversee seeding and planting activities in the project area. Oversight personnel will inspect and approve seed mixes and woody plant materials before they are installed onsite. They will inspect seed mixes to verify that they are transported in appropriate containers and are labeled with the ratios of the included species, total weight, date of preparation, and source. They will inspect woody material to verify the correct species and quantities and to check for insects, diseases, appropriate root development, and/or indicators of excessive stress. Plants that do not appear healthy or of adequate quality for planting will be rejected and will be replaced with quality stock. Seeding and woody planting methodologies will be implemented to verify that the materials are handled and installed appropriately.

4.3 Post-Removal Monitoring

4.3.1 Bank Monitoring

Stabilization and revegetation activities will be monitored to document progress toward the post-construction goals. Monitoring will include visual observations of restored bank and in-channel sediment conditions, as well as evaluation of seeded and planted vegetation. Monitoring of restored bank areas for signs of detrimental erosion or bank failure will be performed annually for 3 years, and will include at least one observation after a 2-year flood event, should one such event occur during the 3-year period. A 2-year or greater flood would represent a high-stress exposure for restored banks and present a relatively high potential for bank failure. Banks and riparian habitats observed to be stable after a 2-year storm will be concluded to be stable. If areas of significant erosion or bank failure are observed during the

monitoring period, the need for adaptive management or bank repair activities will be discussed with the appropriate oversight agencies.

4.3.2 Vegetation Monitoring

Areas of restored vegetation will be monitored by inspection monthly during the first growing season and twice annually for the remaining monitoring period (a total period of three years). Additional inspections may be performed during drought or flood conditions that could significantly affect planted vegetation. The monitoring inspections would be performed to evaluate the health and growth of planted vegetation and to determine whether stressful environmental conditions (e.g., insect infestations, drought) are jeopardizing plant survival. Quantitative vegetation data will be collected once annually for evaluation against performance standards to assess the development of the desired plant community.

Maintenance activities may be necessary to address observed deficiencies or damages. Restored areas will be adaptively managed by responding to the observed successes and failures of the vegetative communities and by focusing on enhancing species associations that are indicating favorable adaptations. Maintenance activities will be discussed with USEPA prior to implementation. Maintenance activities may consist of control of herbivory, re-seeding of bare spots in ground cover, weed control, or replacement of non-surviving plants.

4.3.3 Exotic/Invasive Species Control

Implementation of an exotic/invasive species control program is an essential part of a successful revegetation program. Species to be monitored and controlled include exotic/invasive species and other aggressive species with a tendency to develop into mono-cultures (e.g., common cattail [*Typha latifolia*]). Potentially problematic species in the project area include common cattail, common reed (*Phragmites australis*), multiflora rose (*Rosa multiflora*), purple loosestrife (*Lythrum salicaria*), reed canary grass (*Genus species*), autumn olive (*Elaeagnus umbellata*), garlic mustard (*Alliaria petiolata*), and yellow iris (*Iris pseudacorus*). Control of exotic/invasive species may be accomplished through the physical removal of specimens, or through the broadcast or spot spraying of glyophosphate herbicide, such as Rodeo®, (approval pending). Initial exotic/invasive species control will be performed concurrently with revegetation activities. Additional weed control activities that may be required over the three-year monitoring period will be discussed with the appropriate oversight agencies prior to implementation.

4.3.4 Post-Removal Site Control Monitoring and Maintenance Reports

Monitoring reports that document the observations made during inspections (i.e., the stability of restored banks and the development of planted vegetation) will be prepared at appropriate intervals. The reports will summarize the progress of the restored vegetation toward performance standards, will describe maintenance activities that were required to adaptively manage the areas, and will provide photo-documentation of restored banks and vegetation development from established photo/observation vantage points.

5. References

ARCADIS. 2008a *Plainwell No. 2 Dam Area Investigation –Sediment Sampling Data* September 26, 2008

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Tables

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 2 – Plainwell No. 2 Dam Area Floodplain and Bank Soil Data

BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
KRT11-TB-A	K25800	Bank	1/8/2007	0	6		Total PCBs	1.02	mg/kg			1.0	
KRT11-TB-A	K25801	Bank	1/8/2007	6	12		Total PCBs	0.047	mg/kg	J		0.047 J	
KRT11-TB-A	K25802	Bank	1/8/2007	12	14		Total PCBs	0.041	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.082 U)	
KRT11-TB-B	K25803	Bank	1/8/2007	0	6	K25804	Total PCBs	0.853	mg/kg			0.93	0.78
KRT11-TB-B	K25805	Bank	1/8/2007	6	12		Total PCBs	0.601	mg/kg			0.60	
KRT11-TB-B	K25806	Bank	1/8/2007	12	14		Total PCBs	0.338	mg/kg			0.34	
P2BN-01	K26427	Bank	6/23/2008	0	6		Total PCBs	0.026	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.052 U)	
P2BN-01	K26428	Bank	6/23/2008	6	12		Total PCBs	0.027	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.054 U)	
P2BN-01	K26429	Bank	6/23/2008	12	24		Total PCBs	0.027	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.054 U)	
P2BN-02	K26345	Bank	6/23/2008	0	8		Total PCBs	0.0275	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.055 U)	
P2BN-02	K26346	Bank	6/23/2008	8	15		Total PCBs	0.0265	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.053 U)	
P2BN-02	K26347	Bank	6/23/2008	15	24	K26348	Total PCBs	0.027	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.054 U)	ND(0.054 U)
P2BN-03	K26341	Bank	6/23/2008	0	6		Total PCBs	0.041	mg/kg	J		0.041 J	
P2BN-03	K26342	Bank	6/23/2008	6	12		Total PCBs	0.109	mg/kg	J		0.11 J	
P2BN-03	K26343	Bank	6/23/2008	12	16		Total PCBs	0.037	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.074 U)	
P2BN-04	K26338	Bank	6/23/2008	0	6		Total PCBs	0.0275	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.055 U)	
P2BN-04	K26339	Bank	6/23/2008	6	12		Total PCBs	0.027	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.054 U)	
P2BN-05	K26334	Bank	6/23/2008	0	6		Total PCBs	0.05	mg/kg	J		0.050 J	
P2BN-05	K26335	Bank	6/23/2008	6	12		Total PCBs	0.0345	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.069 U)	
P2BN-05	K26336	Bank	6/23/2008	12	24		Total PCBs	0.0335	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.067 U)	
P2BN-05	K26337	Bank	6/23/2008	24	31		Total PCBs	0.044	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.088 U)	
P2BN-06	K26330	Bank	6/23/2008	0	6		Total PCBs	0.0265	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.053 U)	
P2BN-06	K26331	Bank	6/23/2008	6	12		Total PCBs	0.027	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.054 U)	
P2BN-06	K26332	Bank	6/23/2008	12	20		Total PCBs	0.0265	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.053 U)	
P2BN-07	K26320	Bank	6/19/2008	0	6		Total PCBs	1.45	mg/kg			1.5	
P2BN-07	K26321	Bank	6/19/2008	6	14		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2BN-08	K26317	Bank	6/19/2008	0	6		Total PCBs	2.58	mg/kg			2.6	
P2BN-08	K26318	Bank	6/19/2008	6	12		Total PCBs	0.468	mg/kg			0.47	
P2BN-08	K26319	Bank	6/19/2008	12	18		Total PCBs	0.038	mg/kg	J		0.038 J	
P2BN-09	K26313	Bank	6/19/2008	0	6		Total PCBs	1.15	mg/kg	J		1.2 J	
P2BN-09	K26314	Bank	6/19/2008	6	12		Total PCBs	0.37	mg/kg	J		0.37 J	
P2BN-09	K26315	Bank	6/19/2008	12	17		Total PCBs	0.045	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.090 U)	
P2BN-09	K26316	Bank	6/19/2008	17	20		Total PCBs	0.043	mg/kg	J		0.043 J	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

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P2BN-10	K26326	Bank	6/23/2008	0	6		Total PCBs	31	mg/kg	J		31 J	
P2BN-10	K26327	Bank	6/23/2008	6	12		Total PCBs	11.7	mg/kg			12	
P2BN-10	K26328	Bank	6/23/2008	12	24	K26329	Total PCBs	0.1495	mg/kg	J		0.14 J	0.16 J
P2BN-11	K26423	Bank	6/23/2008	0	6		Total PCBs	3.45	mg/kg			3.5	
P2BN-11	K26424	Bank	6/23/2008	6	12		Total PCBs	0.07	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.14 U)	
P2BN-11	K26425	Bank	6/23/2008	12	15		Total PCBs	0.06	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.12 U)	
P2BN-11	K26426	Bank	6/23/2008	15	19		Total PCBs	0.04	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.080 U)	
P2BN-12	K26419	Bank	6/23/2008	0	6		Total PCBs	1.56	mg/kg			1.6	
P2BN-12	K26420	Bank	6/23/2008	6	12		Total PCBs	0.065	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.13 U)	
P2BN-12	K26421	Bank	6/23/2008	12	24	K26422	Total PCBs	0.0575	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	ND(0.12 U)
P2BN-13	K26416	Bank	6/23/2008	0	6		Total PCBs	0.3	mg/kg	J		0.30 J	
P2BN-13	K26417	Bank	6/23/2008	6	12		Total PCBs	0.065	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.13 U)	
P2BN-13	K26418	Bank	6/23/2008	12	24		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2BN-14	K26413	Bank	6/23/2008	0	6		Total PCBs	1.13	mg/kg			1.1	
P2BN-14	K26414	Bank	6/23/2008	6	12		Total PCBs	0.083	mg/kg	J		0.083 J	
P2BN-14	K26415	Bank	6/23/2008	12	24		Total PCBs	0.05	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.10 U)	
P2BN-15	K26409	Bank	6/23/2008	0	6		Total PCBs	1.65	mg/kg	J		1.7 J	
P2BN-15	K26410	Bank	6/23/2008	6	12		Total PCBs	1.2	mg/kg			1.2	
P2BN-15	K26411	Bank	6/23/2008	12	15		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2BN-15	K26412	Bank	6/23/2008	15	19		Total PCBs	0.0355	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.071 U)	
P2BN-16	K26406	Bank	6/23/2008	0	6		Total PCBs	0.87	mg/kg	J		0.87 J	
P2BN-16	K26407	Bank	6/23/2008	6	12		Total PCBs	0.085	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.17 U)	
P2BN-16	K26408	Bank	6/23/2008	12	24		Total PCBs	0.06	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.12 U)	
P2BN-17	K26402	Bank	6/23/2008	0	6		Total PCBs	3.38	mg/kg			3.4	
P2BN-17	K26403	Bank	6/23/2008	6	12		Total PCBs	0.097	mg/kg	J		0.097 J	
P2BN-17	K26404	Bank	6/23/2008	12	21	K26405	Total PCBs	0.0525	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	ND(0.10 U)
P2BN-18	K26322	Bank	6/23/2008	0	6	K26325	Total PCBs	0.945	mg/kg	J		0.97 J	0.92 J
P2BN-18	K26323	Bank	6/23/2008	6	12		Total PCBs	0.0455	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.091 U)	
P2BN-18	K26324	Bank	6/23/2008	12	18		Total PCBs	0.043	mg/kg	J		0.043 J	
P2BN-19	K26310	Bank	6/19/2008	0	6		Total PCBs	2.87	mg/kg	J		2.9 J	
P2BN-19	K26311	Bank	6/19/2008	6	12		Total PCBs	0.568	mg/kg	J		0.57 J	
P2BN-19	K26312	Bank	6/19/2008	12	24		Total PCBs	0.062	mg/kg	J		0.062 J	
P2BN-20	K26307	Bank	6/19/2008	0	6		Total PCBs	6	mg/kg			6.0	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

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P2BN-20	K26308	Bank	6/19/2008	6	12		Total PCBs	2.65	mg/kg	J		2.7 J	
P2BN-20	K26309	Bank	6/19/2008	12	24		Total PCBs	0.075	mg/kg	J		0.075 J	
P2BN-21	K26302	Bank	6/19/2008	0	6		Total PCBs	1.76	mg/kg			1.8	
P2BN-21	K26303	Bank	6/19/2008	6	12		Total PCBs	0.178	mg/kg			0.18	
P2BN-21	K26304	Bank	6/19/2008	12	18		Total PCBs	0.0405	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.081 U)	
P2BN-21	K26305	Bank	6/19/2008	18	24		Total PCBs	0.05	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.10 U)	
P2BN-21	K26306	Bank	6/19/2008	24	29		Total PCBs	0.044	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.088 U)	
P2BN-22	K26299	Bank	6/19/2008	0	6		Total PCBs	5.94	mg/kg			5.9	
P2BN-22	K26300	Bank	6/19/2008	6	12		Total PCBs	0.14	mg/kg			0.14	
P2BN-22	K26301	Bank	6/19/2008	12	19		Total PCBs	0.075	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.15 UJ)	
P2BN-23	K26251	Bank	6/18/2008	0	6		Total PCBs	0.88	mg/kg			0.88	
P2BN-23	K26252	Bank	6/18/2008	6	14		Total PCBs	0.274	mg/kg			0.27	
P2BN-23	K26253	Bank	6/18/2008	14	21		Total PCBs	0.032	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.064 U)	
P2BN-24	K26247	Bank	6/18/2008	0	6		Total PCBs	1.06	mg/kg			1.1	
P2BN-24	K26248	Bank	6/18/2008	6	12		Total PCBs	0.459	mg/kg	J		0.46 J	
P2BN-24	K26249	Bank	6/18/2008	12	20		Total PCBs	0.128	mg/kg			0.13	
P2BN-24	K26250	Bank	6/18/2008	20	24		Total PCBs	0.041	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.082 U)	
P2BN-25	K26243	Bank	6/18/2008	0	6		Total PCBs	0.719	mg/kg			0.72	
P2BN-25	K26244	Bank	6/18/2008	6	12		Total PCBs	0.092	mg/kg			0.092	
P2BN-25	K26245	Bank	6/18/2008	12	24		Total PCBs	0.036	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.072 U)	
P2BN-25	K26246	Bank	6/18/2008	24	27		Total PCBs	0.0415	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.083 U)	
P2BN-26	K26239	Bank	6/18/2008	0	6		Total PCBs	7.64	mg/kg	J		7.6 J	
P2BN-26	K26240	Bank	6/18/2008	6	12	K26242	Total PCBs	8.42	mg/kg	J		8.7 J	8.1 J
P2BN-26	K26241	Bank	6/18/2008	12	23		Total PCBs	44.8	mg/kg			45	
P2BN-27	K26235	Bank	6/18/2008	0	6	K26238	Total PCBs	5.84	mg/kg			4.7	7.0
P2BN-27	K26236	Bank	6/18/2008	6	12		Total PCBs	2.12	mg/kg	J		2.1 J	
P2BN-27	K26237	Bank	6/18/2008	12	23		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2BN-28	K26230	Bank	6/18/2008	0	6		Total PCBs	8.9	mg/kg	J		8.9 J	
P2BN-28	K26231	Bank	6/18/2008	6	8		Total PCBs	12.8	mg/kg	J		13 J	
P2BN-28	K26232	Bank	6/18/2008	8	12		Total PCBs	0.634	mg/kg	J		0.63 J	
P2BN-28	K26233	Bank	6/18/2008	12	23	K26234	Total PCBs	0.2475	mg/kg	J		0.24 J	0.25 J
P2BN-29	K26227	Bank	6/17/2008	0	6		Total PCBs	2.74	mg/kg			2.7	
P2BN-29	K26228	Bank	6/17/2008	6	12		Total PCBs	1.13	mg/kg			1.1	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

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P2BN-29	K26229	Bank	6/17/2008	12	19		Total PCBs	0.038	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.076 U)	
P2BN-30	K26223	Bank	6/17/2008	0	6		Total PCBs	7.01	mg/kg	J		7.0 J	
P2BN-30	K26224	Bank	6/17/2008	6	12		Total PCBs	6.14	mg/kg			6.1	
P2BN-30	K26225	Bank	6/17/2008	12	18		Total PCBs	1.25	mg/kg			1.3	
P2BN-30	K26226	Bank	6/17/2008	18	21		Total PCBs	0.06	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.12 U)	
P2BN-31	K26218	Bank	6/17/2008	0	6		Total PCBs	7.6	mg/kg			7.6	
P2BN-31	K26219	Bank	6/17/2008	6	10		Total PCBs	2.5	mg/kg			2.5	
P2BN-31	K26220	Bank	6/17/2008	10	15		Total PCBs	0.031	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.062 U)	
P2BN-31	K26221	Bank	6/17/2008	15	19		Total PCBs	0.059	mg/kg	J		0.059 J	
P2BN-31	K26222	Bank	6/17/2008	19	22		Total PCBs	0.031	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.062 U)	
P2BN-32	K26214	Bank	6/17/2008	0	6		Total PCBs	9.04	mg/kg	J		9.0 J	
P2BN-32	K26215	Bank	6/17/2008	6	12		Total PCBs	17.8	mg/kg	J		18 J	
P2BN-32	K26216	Bank	6/17/2008	12	15		Total PCBs	0.128	mg/kg	J		0.13 J	
P2BN-32	K26217	Bank	6/17/2008	15	18		Total PCBs	0.036	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.072 U)	
P2BN-33	K26209	Bank	6/17/2008	0	6		Total PCBs	14.5	mg/kg			15	
P2BN-33	K26210	Bank	6/17/2008	6	9		Total PCBs	7.9	mg/kg	J		7.9 J	
P2BN-33	K26211	Bank	6/17/2008	9	14		Total PCBs	0.949	mg/kg	J		0.95 J	
P2BN-33	K26212	Bank	6/17/2008	14	18		Total PCBs	0.18	mg/kg	J		0.18 J	
P2BN-33	K26213	Bank	6/17/2008	18	21		Total PCBs	0.084	mg/kg			0.084	
P2BN-34	K26205	Bank	6/17/2008	0	6		Total PCBs	10.5	mg/kg	J		11 J	
P2BN-34	K26206	Bank	6/17/2008	6	12		Total PCBs	25.3	mg/kg	J		25 J	
P2BN-34	K26207	Bank	6/17/2008	12	24	K26208	Total PCBs	0.13	mg/kg	J		0.10 J	0.16
P2BN-35	K26201	Bank	6/17/2008	0	6		Total PCBs	1.51	mg/kg			1.5	
P2BN-35	K26202	Bank	6/17/2008	6	12		Total PCBs	0.11	mg/kg			0.11	
P2BN-35	K26203	Bank	6/17/2008	12	16		Total PCBs	0.041	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.082 U)	
P2BN-35	K26204	Bank	6/17/2008	16	19		Total PCBs	24.6	mg/kg	J		25 J	
P2BN-36	K26160	Bank	6/16/2008	0	6		Total PCBs	3.62	mg/kg	J		3.6 J	
P2BN-36	K26161	Bank	6/16/2008	6	12		Total PCBs	3.83	mg/kg	J		3.8 J	
P2BN-36	K26162	Bank	6/16/2008	12	21		Total PCBs	0.18	mg/kg			0.18	
P2BN-37	K26156	Bank	6/16/2008	0	6		Total PCBs	5.86	mg/kg			5.9	
P2BN-37	K26157	Bank	6/16/2008	6	12		Total PCBs	26.8	mg/kg			27	
P2BN-37	K26158	Bank	6/16/2008	12	18		Total PCBs	0.39	mg/kg			0.39	
P2BN-37	K26159	Bank	6/16/2008	18	24		Total PCBs	0.055	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.11 UJ)	

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Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

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BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2BN-38	K26152	Bank	6/16/2008	0	6	K26155	Total PCBs	0.3835	mg/kg	J		0.37 J	0.40 J
P2BN-38	K26153	Bank	6/16/2008	6	12		Total PCBs	0.06	mg/kg	J		0.060 J	
P2BN-38	K26154	Bank	6/16/2008	12	24		Total PCBs	0.03	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.060 U)	
P2BN-39	K26150	Bank	6/16/2008	0	6		Total PCBs	1.01	mg/kg			1.0	
P2BN-39	K26151	Bank	6/16/2008	6	12		Total PCBs	0.172	mg/kg	J		0.17 J	
P2BS-01	K26430	Bank	6/23/2008	0	6		Total PCBs	0.027	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.054 U)	
P2BS-01	K26431	Bank	6/23/2008	6	12		Total PCBs	1.05	mg/kg			1.1	
P2BS-01	K26432	Bank	6/23/2008	12	19		Total PCBs	8.11	mg/kg	J		8.1 J	
P2BS-01	K26433	Bank	6/23/2008	19	22		Total PCBs	0.233	mg/kg			0.23	
P2BS-02	K26371	Bank	6/23/2008	0	6		Total PCBs	0.028	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.056 U)	
P2BS-02	K26372	Bank	6/23/2008	6	12		Total PCBs	0.026	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.052 U)	
P2BS-02	K26373	Bank	6/23/2008	12	20		Total PCBs	0.0265	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.053 U)	
P2BS-03	K26367	Bank	6/23/2008	0	6		Total PCBs	38	mg/kg			38	
P2BS-03	K26368	Bank	6/23/2008	6	12		Total PCBs	16.1	mg/kg			16	
P2BS-03	K26369	Bank	6/23/2008	12	15		Total PCBs	1.91	mg/kg			1.9	
P2BS-03	K26370	Bank	6/23/2008	15	20		Total PCBs	0.081	mg/kg	J		0.081 J	
P2BS-04	K26363	Bank	6/23/2008	0	6		Total PCBs	14.2	mg/kg	J		14 J	
P2BS-04	K26364	Bank	6/23/2008	6	12		Total PCBs	11.8	mg/kg	J		12 J	
P2BS-04	K26365	Bank	6/23/2008	12	24		Total PCBs	0.384	mg/kg	J		0.38 J	
P2BS-04	K26366	Bank	6/23/2008	24	27		Total PCBs	0.047	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.094 U)	
P2BS-05	K26360	Bank	6/23/2008	0	6		Total PCBs	4.98	mg/kg			5.0	
P2BS-05	K26361	Bank	6/23/2008	6	13	K26362	Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	ND(0.11 U)
P2BS-06	K26357	Bank	6/23/2008	0	6		Total PCBs	3.94	mg/kg			3.9	
P2BS-06	K26358	Bank	6/23/2008	6	12		Total PCBs	2.92	mg/kg	J		2.9 J	
P2BS-06	K26359	Bank	6/23/2008	12	22		Total PCBs	0.59	mg/kg			0.59	
P2BS-07	K26296	Bank	6/19/2008	0	6		Total PCBs	0.84	mg/kg			0.84	
P2BS-07	K26297	Bank	6/19/2008	6	12		Total PCBs	0.083	mg/kg			0.083	
P2BS-07	K26298	Bank	6/19/2008	12	24		Total PCBs	0.0355	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.071 U)	
P2BS-08	K26293	Bank	6/19/2008	0	6		Total PCBs	2.26	mg/kg			2.3	
P2BS-08	K26294	Bank	6/19/2008	6	12		Total PCBs	1.01	mg/kg			1.0	
P2BS-08	K26295	Bank	6/19/2008	12	15		Total PCBs	0.05	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.10 U)	
P2BS-09	K26290	Bank	6/19/2008	0	6		Total PCBs	0.049	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.098 U)	
P2BS-09	K26291	Bank	6/19/2008	6	12		Total PCBs	0.08	mg/kg	J		0.080 J	

Table 2 -- Plainwell No. 2 Dam Area Floodplain and Bank Soil Data

BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2BS-09	K26292	Bank	6/19/2008	12	16		Total PCBs	0.0455	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.091 U)	
P2BS-10	K26353	Bank	6/23/2008	0	6		Total PCBs	19.3	mg/kg	J		19 J	
P2BS-10	K26354	Bank	6/23/2008	6	12		Total PCBs	3.8	mg/kg			3.8	
P2BS-10	K26355	Bank	6/23/2008	12	20		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2BS-11	K26396	Bank	6/23/2008	0	6		Total PCBs	0.7	mg/kg			0.70	
P2BS-11	K26397	Bank	6/23/2008	6	11		Total PCBs	0.35	mg/kg			0.35	
P2BS-11	K26398	Bank	6/23/2008	11	14		Total PCBs	0.0305	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.061 U)	
P2BS-11	K26399	Bank	6/23/2008	14	17		Total PCBs	0.05	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.10 U)	
P2BS-11	K26400	Bank	6/23/2008	17	21		Total PCBs	0.031	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.062 U)	
P2BS-11	K26401	Bank	6/23/2008	21	24		Total PCBs	0.039	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.078 U)	
P2BS-12	K26393	Bank	6/23/2008	0	6		Total PCBs	6.94	mg/kg	J		6.9 J	
P2BS-12	K26394	Bank	6/23/2008	6	12		Total PCBs	0.674	mg/kg	J		0.67 J	
P2BS-12	K26395	Bank	6/23/2008	12	18		Total PCBs	0.0365	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.073 U)	
P2BS-13	K26390	Bank	6/23/2008	0	6		Total PCBs	1.5	mg/kg			1.5	
P2BS-13	K26391	Bank	6/23/2008	6	12		Total PCBs	3.06	mg/kg			3.1	
P2BS-13	K26392	Bank	6/23/2008	12	17		Total PCBs	0.065	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.13 U)	
P2BS-14	K26385	Bank	6/23/2008	0	3		Total PCBs	0.0345	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.069 U)	
P2BS-14	K26386	Bank	6/23/2008	3	6		Total PCBs	0.031	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.062 U)	
P2BS-14	K26387	Bank	6/23/2008	6	9		Total PCBs	0.0325	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.065 U)	
P2BS-14	K26388	Bank	6/23/2008	9	12		Total PCBs	0.0335	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.067 U)	
P2BS-14	K26389	Bank	6/23/2008	12	24		Total PCBs	0.032	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.064 U)	
P2BS-15	K26382	Bank	6/23/2008	0	6		Total PCBs	0.034	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.068 U)	
P2BS-15	K26383	Bank	6/23/2008	6	14		Total PCBs	0.0385	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.077 U)	
P2BS-15	K26384	Bank	6/23/2008	14	22		Total PCBs	0.031	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.062 U)	
P2BS-16	K26378	Bank	6/23/2008	0	6		Total PCBs	0.034	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.068 U)	
P2BS-16	K26379	Bank	6/23/2008	6	11		Total PCBs	0.035	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.070 U)	
P2BS-16	K26380	Bank	6/23/2008	11	19		Total PCBs	0.03	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.060 U)	
P2BS-16	K26381	Bank	6/23/2008	19	24		Total PCBs	0.0275	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.055 U)	
P2BS-17	K26374	Bank	6/23/2008	0	6		Total PCBs	2.69	mg/kg			2.7	
P2BS-17	K26375	Bank	6/23/2008	6	12		Total PCBs	0.09	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.18 U)	
P2BS-17	K26376	Bank	6/23/2008	12	24	K26377	Total PCBs	0.0625	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.13 U)	ND(0.12 U)
P2BS-18	K26349	Bank	6/23/2008	0	8		Total PCBs	0.71	mg/kg			0.71	
P2BS-18	K26350	Bank	6/23/2008	8	12		Total PCBs	0.0365	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.073 UJ)	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

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BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2BS-18	K26351	Bank	6/23/2008	12	16		Total PCBs	0.04	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.080 U)	
P2BS-18	K26352	Bank	6/23/2008	16	19		Total PCBs	0.0325	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.065 U)	
P2BS-19	K26286	Bank	6/19/2008	0	6		Total PCBs	11.4	mg/kg	J		11 J	
P2BS-19	K26287	Bank	6/19/2008	6	12		Total PCBs	23.4	mg/kg	J		23 J	
P2BS-19	K26288	Bank	6/19/2008	12	19		Total PCBs	1.46	mg/kg			1.5	
P2BS-19	K26289	Bank	6/19/2008	19	24		Total PCBs	0.576	mg/kg	J		0.58 J	
P2BS-20	K26283	Bank	6/19/2008	0	6		Total PCBs	5.83	mg/kg			5.8	
P2BS-20	K26284	Bank	6/19/2008	6	12		Total PCBs	4.58	mg/kg			4.6	
P2BS-20	K26285	Bank	6/19/2008	12	24		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2BS-21	K26279	Bank	6/19/2008	0	6		Total PCBs	1.17	mg/kg			1.2	
P2BS-21	K26280	Bank	6/19/2008	6	12		Total PCBs	4.39	mg/kg	J		4.4 J	
P2BS-21	K26281	Bank	6/19/2008	12	18		Total PCBs	41.7	mg/kg			42	
P2BS-21	K26282	Bank	6/19/2008	18	24		Total PCBs	0.44	mg/kg			0.44	
P2BS-22	K26276	Bank	6/19/2008	0	6		Total PCBs	7.71	mg/kg	J		7.7 J	
P2BS-22	K26277	Bank	6/19/2008	6	12		Total PCBs	9.37	mg/kg	J		9.4 J	
P2BS-22	K26278	Bank	6/19/2008	12	14		Total PCBs	3.14	mg/kg	J		3.1 J	
P2BS-23	K26273	Bank	6/18/2008	0	6		Total PCBs	2.52	mg/kg			2.5	
P2BS-23	K26274	Bank	6/18/2008	6	12		Total PCBs	1.45	mg/kg	J		1.5 J	
P2BS-23	K26275	Bank	6/18/2008	12	24		Total PCBs	0.054	mg/kg	J		0.054 J	
P2BS-24	K26269	Bank	6/18/2008	0	6		Total PCBs	4.08	mg/kg			4.1	
P2BS-24	K26270	Bank	6/18/2008	6	12		Total PCBs	0.646	mg/kg	J		0.65 J	
P2BS-24	K26271	Bank	6/18/2008	12	24		Total PCBs	0.04	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.080 U)	
P2BS-24	K26272	Bank	6/18/2008	24	27		Total PCBs	0.042	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.084 U)	
P2BS-25	K26266	Bank	6/18/2008	0	6		Total PCBs	29.5	mg/kg			30	
P2BS-25	K26267	Bank	6/18/2008	6	12		Total PCBs	7.9	mg/kg			7.9	
P2BS-25	K26268	Bank	6/18/2008	12	24		Total PCBs	0.05	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.10 U)	
P2BS-26	K26262	Bank	6/18/2008	0	6		Total PCBs	5.56	mg/kg			5.6	
P2BS-26	K26263	Bank	6/18/2008	6	14	K26265	Total PCBs	7.96	mg/kg	J		5.3 J	11 J
P2BS-26	K26264	Bank	6/18/2008	14	20		Total PCBs	0.05	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.10 U)	
P2BS-27	K26257	Bank	6/18/2008	0	6		Total PCBs	12.2	mg/kg	J		12 J	
P2BS-27	K26258	Bank	6/18/2008	6	9		Total PCBs	35	mg/kg	J		35 J	
P2BS-27	K26259	Bank	6/18/2008	9	12		Total PCBs	1.97	mg/kg	J		2.0 J	
P2BS-27	K26260	Bank	6/18/2008	12	19		Total PCBs	0.116	mg/kg	J		0.12 J	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

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BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2BS-27	K26261	Bank	6/18/2008	19	24		Total PCBs	0.039	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.078 U)	
P2BS-28	K26254	Bank	6/18/2008	0	6		Total PCBs	2.51	mg/kg			2.5	
P2BS-28	K26255	Bank	6/18/2008	6	14		Total PCBs	1.85	mg/kg	J		1.9 J	
P2BS-28	K26256	Bank	6/18/2008	14	21		Total PCBs	0.921	mg/kg			0.92	
P2BS-29	K26197	Bank	6/17/2008	0	6		Total PCBs	2.54	mg/kg			2.5	
P2BS-29	K26198	Bank	6/17/2008	6	13		Total PCBs	0.075	mg/kg	J		0.075 J	
P2BS-29	K26199	Bank	6/17/2008	13	17		Total PCBs	0.0415	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.083 U)	
P2BS-29	K26200	Bank	6/17/2008	17	21		Total PCBs	0.042	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.084 U)	
P2BS-30	K26193	Bank	6/17/2008	0	6		Total PCBs	3.67	mg/kg	J		3.7 J	
P2BS-30	K26194	Bank	6/17/2008	6	10		Total PCBs	10.2	mg/kg	J		10 J	
P2BS-30	K26195	Bank	6/17/2008	10	18		Total PCBs	0.423	mg/kg	J		0.42 J	
P2BS-30	K26196	Bank	6/17/2008	18	23		Total PCBs	0.081	mg/kg			0.081	
P2BS-31	K26189	Bank	6/17/2008	0	6		Total PCBs	0.243	mg/kg			0.24	
P2BS-31	K26190	Bank	6/17/2008	6	12		Total PCBs	0.059	mg/kg	J		0.059 J	
P2BS-31	K26191	Bank	6/17/2008	12	24	K26192	Total PCBs	0.03825	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.076 UJ)	ND(0.077 U)
P2BS-32	K26185	Bank	6/17/2008	0	6		Total PCBs	2.03	mg/kg			2.0	
P2BS-32	K26186	Bank	6/17/2008	6	12		Total PCBs	0.16	mg/kg			0.16	
P2BS-32	K26187	Bank	6/17/2008	12	15		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2BS-32	K26188	Bank	6/17/2008	15	18		Total PCBs	0.0335	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.067 U)	
P2BS-33	K26182	Bank	6/17/2008	0	6		Total PCBs	1.55	mg/kg			1.6	
P2BS-33	K26183	Bank	6/17/2008	6	12		Total PCBs	1.19	mg/kg	J		1.2 J	
P2BS-33	K26184	Bank	6/17/2008	12	15		Total PCBs	0.0345	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.069 U)	
P2BS-34	K26178	Bank	6/17/2008	0	6	K26181	Total PCBs	0.2535	mg/kg	J		0.33 J	0.18 J
P2BS-34	K26179	Bank	6/17/2008	6	12		Total PCBs	0.24	mg/kg			0.24	
P2BS-34	K26180	Bank	6/17/2008	12	19		Total PCBs	0.0375	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.075 U)	
P2BS-35	K26175	Bank	6/17/2008	0	6		Total PCBs	12.8	mg/kg			13	
P2BS-35	K26176	Bank	6/17/2008	6	12		Total PCBs	6.95	mg/kg			7.0	
P2BS-35	K26177	Bank	6/17/2008	12	17		Total PCBs	0.048	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.096 U)	
P2BS-36	K26172	Bank	6/16/2008	0	6		Total PCBs	3.57	mg/kg			3.6	
P2BS-36	K26173	Bank	6/16/2008	6	12		Total PCBs	2.72	mg/kg			2.7	
P2BS-36	K26174	Bank	6/16/2008	12	14		Total PCBs	0.05	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.10 U)	
P2BS-37	K26169	Bank	6/16/2008	0	6		Total PCBs	2.4	mg/kg			2.4	
P2BS-37	K26170	Bank	6/16/2008	6	12		Total PCBs	0.197	mg/kg	J		0.20 J	

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Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

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P2BS-37	K26171	Bank	6/16/2008	12	22		Total PCBs	0.0355	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.071 U)	
P2BS-38	K26166	Bank	6/16/2008	0	6		Total PCBs	1.77	mg/kg	J		1.8 J	
P2BS-38	K26167	Bank	6/16/2008	6	12		Total PCBs	6	mg/kg			6.0	
P2BS-38	K26168	Bank	6/16/2008	12	21		Total PCBs	0.31	mg/kg			0.31	
P2BS-39	K26163	Bank	6/16/2008	0	6		Total PCBs	1.13	mg/kg			1.1	
P2BS-39	K26164	Bank	6/16/2008	6	12		Total PCBs	0.183	mg/kg	J		0.18 J	
P2BS-39	K26165	Bank	6/16/2008	12	16		Total PCBs	0.047	mg/kg	J		0.047 J	
P2FP-001	K25841	Bank	6/3/2008	0	6		Total PCBs	18.4	mg/kg	J		18 J	
P2FP-001	K25842	Bank	6/3/2008	6	12		Total PCBs	0.38	mg/kg	J		0.38 J	
P2FP-001	K25843	Bank	6/3/2008	12	18		Total PCBs	0.086	mg/kg	J		0.086 J	
P2FP-002	K26070	Floodplain	6/11/2008	0	6		Total PCBs	2.93	mg/kg			2.9	
P2FP-002	K26071	Floodplain	6/11/2008	6	12		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2FP-002	K26072	Floodplain	6/11/2008	12	17		Total PCBs	0.032	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.064 U)	
P2FP-003	K26063	Floodplain	6/11/2008	0	6		Total PCBs	2.41	mg/kg			2.4	
P2FP-003	K26064	Floodplain	6/11/2008	6	12	K26066	Total PCBs	0.4	mg/kg			0.48	0.32
P2FP-003	K26065	Floodplain	6/11/2008	12	24		Total PCBs	0.08	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.16 U)	
P2FP-004	K26067	Floodplain	6/11/2008	0	6		Total PCBs	9.63	mg/kg	J		9.6 J	
P2FP-004	K26068	Floodplain	6/11/2008	6	12		Total PCBs	3	mg/kg			3.0	
P2FP-004	K26069	Floodplain	6/11/2008	12	22		Total PCBs	0.095	mg/kg			0.095	
P2FP-005	K26060	Floodplain	6/11/2008	0	6		Total PCBs	1.97	mg/kg			2.0	
P2FP-005	K26061	Floodplain	6/11/2008	6	12		Total PCBs	0.41	mg/kg			0.41	
P2FP-005	K26062	Floodplain	6/11/2008	12	17		Total PCBs	0.05	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.10 U)	
P2FP-006	K26036	Floodplain	6/10/2008	0	6		Total PCBs	0.24	mg/kg	J		0.24 J	
P2FP-006	K26037	Floodplain	6/10/2008	6	12		Total PCBs	0.0385	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.077 U)	
P2FP-006	K26038	Floodplain	6/10/2008	12	24		Total PCBs	0.035	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.070 U)	
P2FP-007	K26057	Floodplain	6/11/2008	0	6		Total PCBs	0.53	mg/kg			0.53	
P2FP-007	K26058	Floodplain	6/11/2008	6	12		Total PCBs	0.22	mg/kg			0.22	
P2FP-007	K26059	Floodplain	6/11/2008	12	18		Total PCBs	0.075	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.15 U)	
P2FP-008	K26138	Floodplain	6/12/2008	0	6		Total PCBs	3.02	mg/kg	J		3.0 J	
P2FP-008	K26139	Floodplain	6/12/2008	6	12		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2FP-008	K26140	Floodplain	6/12/2008	12	18		Total PCBs	0.0435	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.087 U)	
P2FP-009	K26048	Floodplain	6/10/2008	0	6		Total PCBs	1.72	mg/kg			1.7	
P2FP-009	K26049	Floodplain	6/10/2008	6	12		Total PCBs	0.11	mg/kg	J		0.11 J	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 2 – Plainwell No. 2 Dam Area Floodplain and Bank Soil Data

BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2FP-009	K26050	Floodplain	6/10/2008	12	18		Total PCBs	0.145	mg/kg	J		0.15 J	
P2FP-010	K26018	Floodplain	6/10/2008	0	6		Total PCBs	0.31	mg/kg	J		0.31 J	
P2FP-010	K26019	Floodplain	6/10/2008	6	12	K26022	Total PCBs	0.03225	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.061 U)	ND(0.068 UJ)
P2FP-010	K26020	Floodplain	6/10/2008	12	24		Total PCBs	3.23	mg/kg			3.2	
P2FP-010	K26021	Floodplain	6/10/2008	24	29		Total PCBs	1.29	mg/kg			1.3	
P2FP-011	K26141	Floodplain	6/12/2008	0	6		Total PCBs	0.976	mg/kg	J		0.98 J	
P2FP-011	K26142	Floodplain	6/12/2008	6	12		Total PCBs	0.27	mg/kg	J		0.27 J	
P2FP-011	K26143	Floodplain	6/12/2008	12	24		Total PCBs	0.07	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.14 U)	
P2FP-012	K26129	Floodplain	6/12/2008	0	6		Total PCBs	1.17	mg/kg			1.2	
P2FP-012	K26130	Floodplain	6/12/2008	6	12		Total PCBs	0.16	mg/kg	J		0.16 J	
P2FP-012	K26131	Floodplain	6/12/2008	12	24		Total PCBs	0.0385	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.077 U)	
P2FP-012	K26132	Floodplain	6/12/2008	24	28		Total PCBs	0.039	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.078 U)	
P2FP-013	K25981	Floodplain	6/5/2008	0	6		Total PCBs	2.56	mg/kg			2.6	
P2FP-013	K25982	Floodplain	6/5/2008	6	12		Total PCBs	1.29	mg/kg			1.3	
P2FP-013	K25983	Floodplain	6/5/2008	12	24		Total PCBs	0.05	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.10 U)	
P2FP-014	K25945	Floodplain	6/5/2008	0	6		Total PCBs	0.374	mg/kg	J		0.37 J	
P2FP-014	K25946	Floodplain	6/5/2008	6	12		Total PCBs	0.034	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.068 U)	
P2FP-014	K25947	Floodplain	6/5/2008	12	24		Total PCBs	0.03	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.060 U)	
P2FP-014	K25948	Floodplain	6/5/2008	24	27		Total PCBs	0.0285	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.057 U)	
P2FP-015	K25962	Floodplain	6/5/2008	0	6		Total PCBs	0.111	mg/kg	J		0.11 J	
P2FP-015	K25963	Floodplain	6/5/2008	6	12		Total PCBs	0.027	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.054 U)	
P2FP-015	K25964	Floodplain	6/5/2008	12	22		Total PCBs	0.0285	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.057 U)	
P2FP-016	K25965	Floodplain	6/5/2008	0	6		Total PCBs	5	mg/kg			5.0	
P2FP-016	K25966	Floodplain	6/5/2008	6	12		Total PCBs	1.87	mg/kg			1.9	
P2FP-016	K25967	Floodplain	6/5/2008	12	24		Total PCBs	0.129	mg/kg	J		0.13 J	
P2FP-016	K25968	Floodplain	6/5/2008	24	27		Total PCBs	0.031	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.062 U)	
P2FP-017	K25901	Floodplain	6/4/2008	0	6		Total PCBs	1.44	mg/kg			1.4	
P2FP-017	K25902	Floodplain	6/4/2008	6	12		Total PCBs	0.394	mg/kg	J		0.39 J	
P2FP-017	K25903	Floodplain	6/4/2008	12	24		Total PCBs	0.03	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.060 U)	
P2FP-018	K25883	Floodplain	6/4/2008	0	6		Total PCBs	0.404	mg/kg	J		0.40 J	
P2FP-018	K25884	Floodplain	6/4/2008	6	12		Total PCBs	0.036	mg/kg	J		0.036 J	
P2FP-018	K25885	Floodplain	6/4/2008	12	24		Total PCBs	0.0315	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.063 UJ)	
P2FP-018	K25886	Floodplain	6/4/2008	24	29		Total PCBs	0.03	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.060 U)	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 2 – Plainwell No. 2 Dam Area Floodplain and Bank Soil Data

BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2FP-019	K25887	Floodplain	6/4/2008	0	6		Total PCBs	6.96	mg/kg	J		7.0 J	
P2FP-019	K25888	Floodplain	6/4/2008	6	12		Total PCBs	0.506	mg/kg	J		0.51 J	
P2FP-019	K25889	Floodplain	6/4/2008	12	24		Total PCBs	0.0305	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.061 U)	
P2FP-019	K25890	Floodplain	6/4/2008	24	28		Total PCBs	0.031	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.062 U)	
P2FP-020	K25907	Floodplain	6/4/2008	0	6		Total PCBs	3.16	mg/kg			3.2	
P2FP-020	K25908	Floodplain	6/4/2008	6	12		Total PCBs	0.036	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.072 U)	
P2FP-020	K25909	Floodplain	6/4/2008	12	21		Total PCBs	0.163	mg/kg			0.16	
P2FP-021	K26144	Floodplain	6/12/2008	0	6		Total PCBs	5.07	mg/kg	J		5.1 J	
P2FP-021	K26145	Floodplain	6/12/2008	6	12		Total PCBs	0.17	mg/kg	J		0.17 J	
P2FP-021	K26146	Floodplain	6/12/2008	12	21		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2FP-022	K26136	Floodplain	6/12/2008	0	6		Total PCBs	43.8	mg/kg	J		44 J	
P2FP-022	K26137	Floodplain	6/12/2008	6	11		Total PCBs	0.075	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.15 U)	
P2FP-022	K26434	Floodplain	6/25/2008	11	14		Total PCBs	0.075	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.15 UJ)	
P2FP-022	K26435	Floodplain	6/25/2008	14	19		Total PCBs	0.035	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.070 U)	
P2FP-023	K26111	Floodplain	6/12/2008	0	6		Total PCBs	0.899	mg/kg	J		0.90 J	
P2FP-023	K26112	Floodplain	6/12/2008	6	12	K26114	Total PCBs	0.2745	mg/kg	J		0.31 J	0.24 J
P2FP-023	K26113	Floodplain	6/12/2008	12	22		Total PCBs	0.0405	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.081 U)	
P2FP-024	K26119	Floodplain	6/12/2008	0	6		Total PCBs	2.62	mg/kg	J		2.6 J	
P2FP-024	K26120	Floodplain	6/12/2008	6	12		Total PCBs	0.639	mg/kg	J		0.64 J	
P2FP-024	K26121	Floodplain	6/12/2008	12	24		Total PCBs	0.041	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.082 U)	
P2FP-024	K26122	Floodplain	6/12/2008	24	27		Total PCBs	0.0355	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.071 U)	
P2FP-025	K25851	Bank	6/3/2008	0	4		Total PCBs	11.7	mg/kg	J		12 J	
P2FP-025	K25852	Bank	6/3/2008	4	15		Total PCBs	0.26	mg/kg	J		0.26 J	
P2FP-025	K25853	Bank	6/3/2008	15	24		Total PCBs	0.055	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.11 UJ)	
P2FP-026	K25904	Floodplain	6/4/2008	0	6		Total PCBs	5.32	mg/kg			5.3	
P2FP-026	K25905	Floodplain	6/4/2008	6	12		Total PCBs	1.18	mg/kg			1.2	
P2FP-026	K25906	Floodplain	6/4/2008	12	24		Total PCBs	0.053	mg/kg	J		0.053 J	
P2FP-027	K25872	Floodplain	6/4/2008	0	6		Total PCBs	4.71	mg/kg	J		4.7 J	
P2FP-027	K25873	Floodplain	6/4/2008	6	12		Total PCBs	2.2	mg/kg			2.2	
P2FP-027	K25874	Floodplain	6/4/2008	12	20		Total PCBs	0.0375	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.075 U)	
P2FP-028	K25913	Floodplain	6/4/2008	0	6		Total PCBs	0.41	mg/kg			0.41	
P2FP-028	K25914	Floodplain	6/4/2008	6	12		Total PCBs	0.038	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.076 U)	
P2FP-028	K25915	Floodplain	6/4/2008	12	24		Total PCBs	0.037	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.074 U)	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

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BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2FP-029	K25869	Floodplain	6/4/2008	0	6	K25871	Total PCBs	3.155	mg/kg			2.3	4.0
P2FP-029	K25870	Floodplain	6/4/2008	6	9		Total PCBs	0.0455	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.091 U)	
P2FP-030	K25899	Floodplain	6/4/2008	0	6		Total PCBs	0.085	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.17 U)	
P2FP-030	K25900	Floodplain	6/4/2008	6	12		Total PCBs	5.84	mg/kg			5.8	
P2FP-031	K25876	Floodplain	6/4/2008	0	6		Total PCBs	1.5	mg/kg	J		1.5 J	
P2FP-031	K25877	Floodplain	6/4/2008	6	12		Total PCBs	0.7	mg/kg			0.70	
P2FP-031	K25878	Floodplain	6/4/2008	12	20		Total PCBs	0.043	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.086 UJ)	
P2FP-032	K25866	Floodplain	6/4/2008	0	6		Total PCBs	0.5	mg/kg	J		0.50 J	
P2FP-032	K25867	Floodplain	6/4/2008	6	12	K25868	Total PCBs	0.09	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.21 UJ)	ND(0.15 U)
P2FP-033	K26147	Floodplain	6/12/2008	0	6		Total PCBs	0.92	mg/kg			0.92	
P2FP-033	K26148	Floodplain	6/12/2008	6	12		Total PCBs	0.039	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.078 U)	
P2FP-033	K26149	Floodplain	6/12/2008	12	22		Total PCBs	0.038	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.076 U)	
P2FP-034	K26115	Floodplain	6/12/2008	0	6		Total PCBs	0.55	mg/kg			0.55	
P2FP-034	K26116	Floodplain	6/12/2008	6	12		Total PCBs	0.0425	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.085 U)	
P2FP-034	K26117	Floodplain	6/12/2008	12	21	K26118	Total PCBs	0.04325	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.085 U)	ND(0.088 U)
P2FP-035	K26133	Floodplain	6/12/2008	0	6		Total PCBs	5.5	mg/kg			5.5	
P2FP-035	K26134	Floodplain	6/12/2008	6	12		Total PCBs	0.049	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.098 U)	
P2FP-035	K26135	Floodplain	6/12/2008	12	22		Total PCBs	0.0315	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.063 U)	
P2FP-036	K26123	Floodplain	6/12/2008	0	6		Total PCBs	0.94	mg/kg			0.94	
P2FP-036	K26124	Floodplain	6/12/2008	6	12		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2FP-036	K26125	Floodplain	6/12/2008	12	17		Total PCBs	0.043	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.086 U)	
P2FP-037	K26126	Floodplain	6/12/2008	0	6		Total PCBs	0.256	mg/kg	J		0.26 J	
P2FP-037	K26127	Floodplain	6/12/2008	6	12		Total PCBs	0.059	mg/kg	J		0.059 J	
P2FP-037	K26128	Floodplain	6/12/2008	12	20		Total PCBs	0.0355	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.071 U)	
P2FP-038	K25910	Floodplain	6/4/2008	0	6		Total PCBs	11.7	mg/kg			12	
P2FP-038	K25911	Floodplain	6/4/2008	6	12		Total PCBs	4.79	mg/kg			4.8	
P2FP-038	K25912	Floodplain	6/4/2008	12	21		Total PCBs	0.36	mg/kg			0.36	
P2FP-039	K25891	Floodplain	6/4/2008	0	6		Total PCBs	4.56	mg/kg			4.6	
P2FP-039	K25892	Floodplain	6/4/2008	6	12		Total PCBs	1.93	mg/kg			1.9	
P2FP-039	K25893	Floodplain	6/4/2008	12	24		Total PCBs	0.04	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.080 U)	
P2FP-039	K25894	Floodplain	6/4/2008	24	28		Total PCBs	0.0345	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.069 U)	
P2FP-040	K25879	Floodplain	6/4/2008	0	6		Total PCBs	1.77	mg/kg			1.8	
P2FP-040	K25880	Floodplain	6/4/2008	6	12		Total PCBs	0.11	mg/kg	J		0.11 J	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

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BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2FP-040	K25881	Floocplain	6/4/2008	12	19		Total PCBs	0.0375	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.075 U)	
P2FP-040	K25882	Floocplain	6/4/2008	19	32		Total PCBs	0.0315	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.063 U)	
P2FP-041	K25895	Floodplain	6/4/2008	0	6		Total PCBs	0.397	mg/kg	J		0.40 J	
P2FP-041	K25896	Floodplain	6/4/2008	6	12		Total PCBs	0.0335	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.067 U)	
P2FP-041	K25897	Floodplain	6/4/2008	12	24		Total PCBs	0.033	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.066 U)	
P2FP-041	K25898	Floodplain	6/4/2008	24	29		Total PCBs	0.0295	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.059 U)	
P2FP-042	K26083	Floodplain	6/11/2008	0	6		Total PCBs	3.38	mg/kg			3.4	
P2FP-042	K26084	Floodplain	6/11/2008	6	12		Total PCBs	0.298	mg/kg	J		0.30 J	
P2FP-042	K26085	Floodplain	6/11/2008	12	17		Total PCBs	0.075	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.15 U)	
P2FP-043	K26108	Floocplain	6/11/2008	0	6		Total PCBs	2.19	mg/kg	J		2.2 J	
P2FP-043	K26109	Floocplain	6/11/2008	6	12		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2FP-043	K26110	Floocplain	6/11/2008	12	19		Total PCBs	0.037	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.074 U)	
P2FP-044	K26013	Floodplain	6/9/2008	0	6		Total PCBs	2.32	mg/kg	J		2.3 J	
P2FP-044	K26014	Floodplain	6/9/2008	6	12		Total PCBs	0.037	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.074 UJ)	
P2FP-045	K26015	Floodplain	6/9/2008	0	6		Total PCBs	1.51	mg/kg	J		1.5 J	
P2FP-045	K26016	Floodplain	6/9/2008	6	12		Total PCBs	0.06	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.12 UJ)	
P2FP-045	K26017	Floodplain	6/9/2008	12	18		Total PCBs	0.0335	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.067 UJ)	
P2FP-046	K25995	Floodplain	6/9/2008	0	6		Total PCBs	0.68	mg/kg	J		0.68 J	
P2FP-046	K25996	Floodplain	6/9/2008	6	12		Total PCBs	0.115	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.23 U)	
P2FP-046	K25997	Floodplain	6/9/2008	12	16		Total PCBs	0.047	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.094 U)	
P2FP-047	K26009	Floodplain	6/9/2008	0	6	K26012	Total PCBs	1.2	mg/kg	J		0.97 J	1.4 J
P2FP-047	K26010	Floodplain	6/9/2008	6	12		Total PCBs	0.041	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.082 UJ)	
P2FP-047	K26011	Floodplain	6/9/2008	12	19		Total PCBs	0.039	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.078 UJ)	
P2FP-048	K26003	Floocplain	6/9/2008	0	6		Total PCBs	0.51	mg/kg	J		0.51 J	
P2FP-048	K26004	Floocplain	6/9/2008	6	12		Total PCBs	0.032	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.064 U)	
P2FP-048	K26005	Floocplain	6/9/2008	12	16		Total PCBs	0.037	mg/kg	J		0.037 J	
P2FP-049	K26028	Floocplain	6/10/2008	0	6		Total PCBs	3.03	mg/kg			3.0	
P2FP-049	K26029	Floocplain	6/10/2008	6	12		Total PCBs	0.11	mg/kg	J		0.11 J	
P2FP-049	K26030	Floocplain	6/10/2008	12	19		Total PCBs	0.0405	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.081 U)	
P2FP-050	K26032	Floocplain	6/10/2008	0	6		Total PCBs	1.76	mg/kg			1.8	
P2FP-050	K26033	Floocplain	6/10/2008	6	12		Total PCBs	0.23	mg/kg			0.23	
P2FP-050	K26034	Floocplain	6/10/2008	12	24		Total PCBs	0.0395	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.079 U)	
P2FP-051	K25844	Floocplain	6/3/2008	0	6		Total PCBs	4.19	mg/kg	J		4.2 J	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 2 -- Plainwell No. 2 Dam Area Floodplain and Bank Soil Data

BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2FP-051	K25845	Floodplain	6/3/2008	6	12		Total PCBs	11.1	mg/kg	J		11 J	
P2FP-051	K25846	Floodplain	6/3/2008	12	24		Total PCBs	1.75	mg/kg	J		1.8 J	
P2FP-051	K25847	Floodplain	6/3/2008	24	29		Total PCBs	0.0375	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.075 UJ)	
P2FP-052	K25863	Floodplain	6/3/2008	0	6		Total PCBs	1.14	mg/kg	J		1.1 J	
P2FP-052	K25864	Floodplain	6/3/2008	6	12		Total PCBs	0.055	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.11 UJ)	
P2FP-052	K25865	Floodplain	6/3/2008	12	16		Total PCBs	0.0455	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.091 U)	
P2FP-053	K25848	Bank	6/3/2008	0	6		Total PCBs	12.7	mg/kg	J		13 J	
P2FP-053	K25849	Bank	6/3/2008	6	12		Total PCBs	59.9	mg/kg	J		60 J	
P2FP-053	K25850	Bank	6/3/2008	12	24		Total PCBs	0.92	mg/kg			0.92	
P2FP-054	K26089	Floodplain	6/11/2008	0	6		Total PCBs	1.53	mg/kg			1.5	
P2FP-054	K26090	Floodplain	6/11/2008	6	12		Total PCBs	0.078	mg/kg	J		0.078 J	
P2FP-054	K26091	Floodplain	6/11/2008	12	15		Total PCBs	0.0385	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.077 U)	
P2FP-054	K26440	Floodplain	6/25/2008	15	19		Total PCBs	0.041	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.082 U)	
P2FP-055	K26076	Floodplain	6/11/2008	0	6		Total PCBs	0.095	mg/kg	J		0.095 J	
P2FP-055	K26077	Floodplain	6/11/2008	6	12		Total PCBs	0.0315	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.063 U)	
P2FP-055	K26078	Floodplain	6/11/2008	12	14		Total PCBs	0.0315	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.063 U)	
P2FP-055	K26438	Floodplain	6/25/2008	14	18		Total PCBs	0.032	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.064 U)	
P2FP-056	K25929	Floodplain	6/5/2008	0	6		Total PCBs	0.49	mg/kg	J		0.49 J	
P2FP-056	K25930	Floodplain	6/5/2008	6	12		Total PCBs	0.095	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.19 U)	
P2FP-056	K25931	Floodplain	6/5/2008	12	16		Total PCBs	0.065	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.13 U)	
P2FP-057	K25937	Floodplain	6/5/2008	0	6		Total PCBs	0.0335	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.067 U)	
P2FP-057	K25938	Floodplain	6/5/2008	6	12		Total PCBs	0.0305	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.061 U)	
P2FP-057	K25939	Floodplain	6/5/2008	12	24	K25941	Total PCBs	0.0295	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.059 U)	ND(0.059 U)
P2FP-057	K25940	Floodplain	6/5/2008	24	27		Total PCBs	0.03	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.060 U)	
P2FP-058	K25988	Floodplain	6/9/2008	0	6		Total PCBs	0.556	mg/kg	J		0.56 J	
P2FP-058	K25989	Floodplain	6/9/2008	6	12		Total PCBs	0.09	mg/kg	J		0.090 J	
P2FP-058	K25990	Floodplain	6/9/2008	12	24		Total PCBs	0.065	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.13 U)	
P2FP-059	K25991	Floodplain	6/9/2008	0	6	K25994	Total PCBs	0.405	mg/kg			0.41	0.40
P2FP-059	K25992	Floodplain	6/9/2008	6	12		Total PCBs	0.049	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.098 U)	
P2FP-059	K25993	Floodplain	6/9/2008	12	24		Total PCBs	0.037	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.074 U)	
P2FP-060	K26000	Floodplain	6/9/2008	0	6		Total PCBs	0.15	mg/kg	J		0.15 J	
P2FP-060	K26001	Floodplain	6/9/2008	6	12		Total PCBs	0.0375	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.075 U)	
P2FP-060	K26002	Floodplain	6/9/2008	12	15		Total PCBs	0.039	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.078 U)	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 2 – Plainwell No. 2 Dam Area Floodplain and Bank Soil Data

BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2FP-060	K26439	Floodplain	6/25/2008	15	20		Total PCBs	0.038	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.076 U)	
P2FP-061	K26006	Floodplain	6/9/2008	0	6		Total PCBs	0.22	mg/kg			0.22	
P2FP-061	K26007	Floodplain	6/9/2008	6	12		Total PCBs	0.04	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.080 U)	
P2FP-061	K26008	Floodplain	6/9/2008	12	22		Total PCBs	0.0365	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.073 UJ)	
P2FP-062	K25998	Floodplain	6/9/2008	0	6		Total PCBs	1.66	mg/kg	J		1.7 J	
P2FP-062	K25999	Floodplain	6/9/2008	6	10		Total PCBs	0.658	mg/kg	J		0.66 J	
P2FP-062	K26436	Floodplain	6/25/2008	10	16		Total PCBs	0.05	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.10 U)	
P2FP-063	K26045	Floodplain	6/10/2008	0	6		Total PCBs	2.42	mg/kg	J		2.4 J	
P2FP-063	K26046	Floodplain	6/10/2008	6	12		Total PCBs	0.78	mg/kg			0.78	
P2FP-063	K26047	Floodplain	6/10/2008	12	19		Total PCBs	0.049	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.098 UJ)	
P2FP-064	K26051	Floodplain	6/10/2008	0	6		Total PCBs	0.644	mg/kg			0.64	
P2FP-064	K26052	Floodplain	6/10/2008	6	12		Total PCBs	0.11	mg/kg			0.11	
P2FP-064	K26053	Floodplain	6/10/2008	12	19		Total PCBs	0.04	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.080 U)	
P2FP-065	K25835	Floodplain	6/3/2008	0	6		Total PCBs	1.74	mg/kg			1.7	
P2FP-065	K25836	Floodplain	6/3/2008	6	12		Total PCBs	0.82	mg/kg			0.82	
P2FP-065	K25837	Floodplain	6/3/2008	12	15		Total PCBs	0.1	mg/kg			0.10	
P2FP-066	K25838	Floodplain	6/3/2008	0	6		Total PCBs	1.69	mg/kg			1.7	
P2FP-066	K25839	Floodplain	6/3/2008	6	12		Total PCBs	1.01	mg/kg	J		1.0 J	
P2FP-066	K25840	Floodplain	6/3/2008	12	23		Total PCBs	0.043	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.086 U)	
P2FP-067	K25857	Floodplain	6/3/2008	0	6		Total PCBs	2.49	mg/kg	J		2.5 J	
P2FP-067	K25858	Floodplain	6/3/2008	6	12		Total PCBs	0.4	mg/kg			0.40	
P2FP-067	K25859	Floodplain	6/3/2008	12	24		Total PCBs	0.047	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.094 U)	
P2FP-068	K25854	Floodplain	6/3/2008	0	6		Total PCBs	1.12	mg/kg	J		1.1 J	
P2FP-068	K25855	Floodplain	6/3/2008	6	12		Total PCBs	0.134	mg/kg			0.13	
P2FP-068	K25856	Floodplain	6/3/2008	12	24		Total PCBs	0.0355	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.071 U)	
P2FP-069	K26105	Floodplain	6/11/2008	0	6		Total PCBs	6.02	mg/kg			6.0	
P2FP-069	K26106	Floodplain	6/11/2008	6	12		Total PCBs	0.24	mg/kg			0.24	
P2FP-069	K26107	Floodplain	6/11/2008	12	19		Total PCBs	14.1	mg/kg			14	
P2FP-070	K26099	Floodplain	6/11/2008	0	6		Total PCBs	1.31	mg/kg			1.3	
P2FP-070	K26100	Floodplain	6/11/2008	6	12		Total PCBs	0.0415	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.083 U)	
P2FP-070	K26101	Floodplain	6/11/2008	12	24		Total PCBs	0.0345	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.069 U)	
P2FP-071	K26079	Floodplain	6/11/2008	0	6		Total PCBs	0.18	mg/kg			0.18	
P2FP-071	K26080	Floodplain	6/11/2008	6	12		Total PCBs	0.04	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.080 U)	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

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BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2FP-071	K26081	Floodplain	6/11/2008	12	24		Total PCBs	0.036	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.072 U)	
P2FP-071	K26082	Floodplain	6/11/2008	24	26		Total PCBs	0.0455	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.091 U)	
P2FP-072	K25949	Floodplain	6/5/2008	0	6		Total PCBs	0.63	mg/kg	J		0.63 J	
P2FP-072	K25950	Floodplain	6/5/2008	6	12		Total PCBs	0.044	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.088 U)	
P2FP-072	K26437	Floodplain	6/25/2008	12	14		Total PCBs	0.0385	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.077 U)	
P2FP-073	K25933	Floodplain	6/5/2008	0	6		Total PCBs	1.06	mg/kg			1.1	
P2FP-073	K25934	Floodplain	6/5/2008	6	12		Total PCBs	0.036	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.072 U)	
P2FP-073	K25935	Floodplain	6/5/2008	12	24		Total PCBs	0.033	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.066 U)	
P2FP-073	K25936	Floodplain	6/5/2008	24	28		Total PCBs	0.0275	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.055 U)	
P2FP-074	K25925	Floodplain	6/5/2008	0	6		Total PCBs	0.32	mg/kg			0.32	
P2FP-074	K25926	Floodplain	6/5/2008	6	12	K25928	Total PCBs	0.02975	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.061 U)	ND(0.058 U)
P2FP-074	K25927	Floodplain	6/5/2008	12	24		Total PCBs	0.031	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.062 U)	
P2FP-075	K25951	Floodplain	6/5/2008	0	6	K25954	Total PCBs	5.16	mg/kg			5.2	5.1
P2FP-075	K25952	Floodplain	6/5/2008	6	12		Total PCBs	3.29	mg/kg			3.3	
P2FP-075	K25953	Floodplain	6/5/2008	12	17		Total PCBs	0.03	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.060 U)	
P2FP-076	K26039	Floodplain	6/10/2008	0	6		Total PCBs	0.69	mg/kg	J		0.69 J	
P2FP-076	K26040	Floodplain	6/10/2008	6	12		Total PCBs	0.09	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.18 U)	
P2FP-076	K26041	Floodplain	6/10/2008	12	17		Total PCBs	0.055	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.11 U)	
P2FP-077	K26054	Floodplain	6/10/2008	0	6		Total PCBs	4.1	mg/kg			4.1	
P2FP-077	K26055	Floodplain	6/10/2008	6	12		Total PCBs	8.92	mg/kg	J		8.9 J	
P2FP-077	K26056	Floodplain	6/10/2008	12	20		Total PCBs	0.085	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.17 U)	
P2FP-078	K26042	Floodplain	6/10/2008	0	6		Total PCBs	1.12	mg/kg	J		1.1 J	
P2FP-078	K26043	Floodplain	6/10/2008	6	12		Total PCBs	4.14	mg/kg	J		4.1 J	
P2FP-078	K26044	Floodplain	6/10/2008	12	19		Total PCBs	0.043	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.086 UJ)	
P2FP-079	K26023	Floodplain	6/10/2008	0	6	K26027	Total PCBs	2.68	mg/kg	J		2.7 J	2.6 J
P2FP-079	K26024	Floodplain	6/10/2008	6	12		Total PCBs	0.262	mg/kg	J		0.26 J	
P2FP-079	K26025	Floodplain	6/10/2008	12	24		Total PCBs	0.0375	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.075 U)	
P2FP-079	K26026	Floodplain	6/10/2008	24	28		Total PCBs	0.0385	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.077 U)	
P2FP-080	K25860	Floodplain	6/3/2008	0	6		Total PCBs	1.07	mg/kg			1.1	
P2FP-080	K25861	Floodplain	6/3/2008	6	12		Total PCBs	0.328	mg/kg	J		0.33 J	
P2FP-080	K25862	Floodplain	6/3/2008	12	23		Total PCBs	0.036	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.072 U)	
P2FP-081	K26102	Floodplain	6/11/2008	0	6		Total PCBs	0.412	mg/kg	J		0.41 J	
P2FP-081	K26103	Floodplain	6/11/2008	6	12		Total PCBs	0.0445	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.089 U)	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 2 -- Plainwell No. 2 Dam Area Floodplain and Bank Soil Data

BBLID	Sample ID	Bank or Floodplain	Date	Depth Top (inches)	Depth Bottom (inches)	Duplicate Sample ID	Analyte	Value	Units	Qual	Note	Original Sample Test Result	Duplicate Sample Test Result
P2FP-081	K26104	Floodplain	6/11/2008	12	20		Total PCBs	0.033	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.066 U)	
P2FP-082	K26096	Floodplain	6/11/2008	0	6		Total PCBs	0.768	mg/kg	J		0.77 J	
P2FP-082	K26097	Floodplain	6/11/2008	6	12		Total PCBs	0.043	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.086 U)	
P2FP-082	K26098	Floodplain	6/11/2008	12	24		Total PCBs	0.0365	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.073 U)	
P2FP-083	K26086	Floodplain	6/11/2008	0	6		Total PCBs	0.07	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.14 U)	
P2FP-083	K26087	Floodplain	6/11/2008	6	12		Total PCBs	0.0465	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.093 U)	
P2FP-083	K26088	Floodplain	6/11/2008	12	23		Total PCBs	0.036	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.072 U)	
P2FP-084	K25916	Floodplain	6/5/2008	0	6	K25919	Total PCBs	0.1385	mg/kg	J		0.12	0.16 J
P2FP-084	K25917	Floodplain	6/5/2008	6	12		Total PCBs	0.156	mg/kg	J		0.16 J	
P2FP-084	K25918	Floodplain	6/5/2008	12	20		Total PCBs	0.038	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.076 U)	
P2FP-085	K25920	Floodplain	6/5/2008	0	6		Total PCBs	0.078	mg/kg	J		0.078 J	
P2FP-085	K25921	Floodplain	6/5/2008	6	12	K25924	Total PCBs	0.031	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.062 U)	ND(0.062 U)
P2FP-085	K25922	Floodplain	6/5/2008	12	24		Total PCBs	0.0335	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.067 U)	
P2FP-085	K25923	Floodplain	6/5/2008	24	28		Total PCBs	0.025	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.050 U)	
P2FP-086	K25955	Floodplain	6/5/2008	0	6		Total PCBs	0.031	mg/kg	J		0.031 J	
P2FP-086	K25956	Floodplain	6/5/2008	6	12		Total PCBs	0.0325	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.065 U)	
P2FP-086	K25957	Floodplain	6/5/2008	12	17		Total PCBs	0.0305	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.061 U)	
P2FP-087	K25978	Floodplain	6/5/2008	0	6		Total PCBs	2.32	mg/kg			2.3	
P2FP-087	K25979	Floodplain	6/5/2008	6	12		Total PCBs	0.031	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.062 U)	
P2FP-087	K25980	Floodplain	6/5/2008	12	22		Total PCBs	0.05	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.10 U)	
P2FP-088	K26073	Floodplain	6/11/2008	0	6		Total PCBs	0.23	mg/kg			0.23	
P2FP-088	K26074	Floodplain	6/11/2008	6	12		Total PCBs	0.0375	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.075 U)	
P2FP-088	K26075	Floodplain	6/11/2008	12	16		Total PCBs	0.0345	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.069 U)	
P2FP-089	K25969	Floodplain	6/5/2008	0	6		Total PCBs	0.416	mg/kg			0.42	
P2FP-089	K25970	Floodplain	6/5/2008	6	12		Total PCBs	0.072	mg/kg			0.072	
P2FP-089	K25971	Floodplain	6/5/2008	12	24		Total PCBs	0.033	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.066 U)	
P2FP-090	K25942	Floodplain	6/5/2008	0	6		Total PCBs	13.8	mg/kg	J		14 J	
P2FP-090	K25943	Floodplain	6/5/2008	6	12		Total PCBs	4.5	mg/kg			4.5	
P2FP-090	K25944	Floodplain	6/5/2008	12	20		Total PCBs	0.051	mg/kg	J		0.051 J	
P2FP-091	K25972	Floodplain	6/5/2008	0	6		Total PCBs	1.37	mg/kg			1.4	
P2FP-091	K25973	Floodplain	6/5/2008	6	12		Total PCBs	0.753	mg/kg			0.75	
P2FP-091	K25974	Floodplain	6/5/2008	12	23		Total PCBs	0.0355	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.071 U)	
P2FP-092	K26092	Floodplain	6/11/2008	0	6		Total PCBs	0.27	mg/kg	J		0.27 J	

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

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P2FP-092	K26093	Floodplain	6/11/2008	6	12		Total PCBs	0.034	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.068 U)	
P2FP-092	K26094	Floodplain	6/11/2008	12	22	K26095	Total PCBs	0.0375	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.076 U)	ND(0.074 U)
P2FP-093	K25959	Bank	6/5/2008	0	6		Total PCBs	0.413	mg/kg	J		0.41 J	
P2FP-093	K25960	Bank	6/5/2008	6	12		Total PCBs	0.066	mg/kg	J		0.066 J	
P2FP-093	K25961	Bank	6/5/2008	12	24		Total PCBs	0.035	mg/kg	U	NDs are reported at 1/2 the DL	ND(0.070 U)	
P2FP-094	K25984	Bank	6/5/2008	0	6		Total PCBs	12.2	mg/kg			12	
P2FP-094	K25985	Bank	6/5/2008	6	12		Total PCBs	10	mg/kg			10	
P2FP-094	K25986	Bank	6/5/2008	12	24		Total PCBs	0.937	mg/kg			0.94	
P2FP-094	K25987	Bank	6/5/2008	24	27		Total PCBs	0.111	mg/kg	J		0.11 J	
P2FP-095	K25975	Floodplain	6/5/2008	0	6		Total PCBs	4.23	mg/kg			4.2	
P2FP-095	K25976	Floodplain	6/5/2008	6	12		Total PCBs	0.265	mg/kg	J		0.27 J	
P2FP-095	K25977	Floodplain	6/5/2008	12	18		Total PCBs	0.049	mg/kg	UJ	NDs are reported at 1/2 the DL	ND(0.098 UJ)	

Notes

1) DL = detection limit
2) cy = cubic yards
3) mg/kg = milligrams per kilogram
4) ND = nondetect
5) PCB = polychlorinated biphenyls
6) U = The compound was analyzed for but not detected.
7) J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 4 -- Plainwell No. 2 Dam Area Sediment Summary of Total PCB Data

Depth Interval (inches)	Frequency of Detection	Total PCB (mg/kg)						Total Number of Samples within Specified Range			
		Data Range	Location of Max Detect	Arithmetic Mean	Standard Deviation	Geomean	Median	ND - 0.1	0.1 - 1.0	1.0 - 10	>10
All Sediment Samples											
All Samples											
0 - 2	49/60 (82%)	ND(0.16 U) - 42 J	P2RT-6-2 (0 - 2 in)	2.7	7.8	0.41	0.39	7	20	18	4
2 - 6	47/60 (78%)	ND(0.19 U) - 100 J	P2RT-6-2 (2 - 6 in)	3.3	14	0.29	0.24	11	22	11	3
6 - 12	24/49 (49%)	ND(0.19 U) - 23 J	P2RT-6-2 (6 - 12 in)	0.74	3.2	0.12	0.065	4	14	5	1
12 - 24	12/56 (21%)	[ND(0.19 U)/ND(0.17 U)] - 3.5 J	P2RT-14-7 (12 - 24 in)	0.19	0.54	0.065	0.045	3	5	4	0
24 - 36	4/25 (16%)	ND(0.23 U) - 0.25	P2RT-3-5 (24 - 36 in)	0.065	0.057	0.052	0.048	2	2	0	0
> 36	1/17 (6%)	ND(0.15 U) - 0.031 [ND(0.061 U)/0.032 J]	P2RT-3-4 (36 - 48 in)	0.037	0.013	0.035	0.032	1	0	0	0
All Samples	137/267 (51%)	ND(0.23 U) - 100 J	P2RT-6-2 (2 - 6 in)	1.5	7.6	0.15	0.065	28	63	38	8
Coarse											
0 - 2	8/15 (53%)	ND(0.10 U) - 2.0 J	P2RT-1-2 (0 - 2 in)	0.24	0.53	0.074	0.050	4	3	1	0
2 - 6	10/14 (71%)	ND(0.064 U) - 3.0 J	P2RT-1-2 (2 - 6 in)	0.32	0.79	0.091	0.057	6	3	1	0
6 - 12	4/6 (67%)	[ND(0.082 U)/ND(0.089 U)] - 0.77 J	P2RT-14-7 (6 - 12 in)	0.29	0.32	0.13	0.16	1	3	0	0
12 - 24	1/2 (50%)	ND(0.10 U) - 3.5 J	P2RT-14-7 (12 - 24 in)	1.8	2.4	0.42	1.8	0	0	1	0
24 - 36	0/2 (0%)	ND(0.059 U) - ND(0.10 U)	NA	--	--	--	ND	0	0	0	0
> 36	0/1 (0%)	ND(0.098 U)	NA	--	--	--	ND	0	0	0	0
All Samples	23/40 (58%)	ND(0.10 U) - 3.5 J	P2RT-14-7 (12 - 24 in)	0.34	0.77	0.090	0.050	11	9	3	0
Fine											
0 - 2	39/42 (93%)	ND(0.16 U) - 42 J	P2RT-6-2 (0 - 2 in)	3.8	9.2	0.87	0.98	2	16	17	4
2 - 6	34/43 (79%)	ND(0.19 U) - 100 J	P2RT-6-2 (2 - 6 in)	4.5	16	0.46	0.42	4	17	10	3
6 - 12	19/41 (46%)	ND(0.19 U) - 23 J	P2RT-6-2 (6 - 12 in)	0.84	3.5	0.13	0.065	3	10	5	1
12 - 24	11/54 (20%)	[ND(0.19 U)/ND(0.17 U)] - 1.5 [1.4/1.7]	P2RT-DEPOSIT-1 (12 - 20 in)	0.14	0.30	0.061	0.044	3	5	3	0
24 - 36	4/23 (17%)	ND(0.23 U) - 0.25	P2RT-3-5 (24 - 36 in)	0.067	0.059	0.054	0.048	2	2	0	0
> 36	1/16 (6%)	ND(0.15 U) - 0.031 [ND(0.061 U)/0.032 J]	P2RT-3-4 (36 - 48 in)	0.036	0.013	0.034	0.031	1	0	0	0
All Samples	108/219 (49%)	ND(0.23 U) - 100 J	P2RT-6-2 (2 - 6 in)	1.8	8.4	0.16	0.070	15	50	35	8
NR											
0 - 2	2/3 (67%)	ND(0.064 U) - 0.28 J	P2RT-16-9 (0 - 2 in)	0.12	0.14	0.066	0.032	1	1	0	0
2 - 6	3/3 (100%)	0.053 [0.044 J/0.061] - 0.23 J	P2RT-16-9 (2 - 6 in)	0.15	0.089	0.13	0.17	1	2	0	0
6 - 12	1/2 (50%)	[ND(0.059 U)/ND(0.060 U)] - 0.15 J	P2RT-18-9 (6 - 10 in)	0.091	0.086	0.067	0.091	0	1	0	0
All Samples	6/8 (75%)	ND(0.064 U) - 0.28 J	P2RT-16-9 (0 - 2 in)	0.12	0.10	0.085	0.10	2	4	0	0

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 4 -- Plainwell No. 2 Dam Area Sediment Summary of Total PCB Data

Depth Interval (inches)	Frequency of Detection	Total PCB (mg/kg)						Total Number of Samples within Specified Range			
		Data Range	Location of Max Detect	Arithmetic Mean	Standard Deviation	Geomean	Median	ND - 0.1	0.1 - 1.0	1.0 - 10	>10
Channel Sediment Samples											
All Samples											
0 - 2	39/50 (78%)	ND(0.16 U) - 42 J	P2RT-18-1 (0 - 2 in)	1.7	6.0	0.27	0.21	7	19	12	1
2 - 6	37/50 (74%)	ND(0.19 U) - 17 J	P2RT-18-1 (2 - 6 in)	0.83	2.6	0.17	0.13	11	19	6	1
6 - 12	15/39 (38%)	ND(0.19 U) - 1.4	P2RT-DEPOSIT-1 (6 - 12 in)	0.21	0.33	0.091	0.048	1	12	2	0
12 - 24	9/43 (21%)	[ND(0.19 U)/ND(0.17 U)] - 3.5 J	P2RT-14-7 (12 - 24 in)	0.23	0.61	0.068	0.043	1	4	4	0
24 - 36	3/16 (19%)	ND(0.23 U) - 0.25	P2RT-3-5 (24 - 36 in)	0.074	0.069	0.056	0.046	1	2	0	0
> 36	1/16 (6%)	ND(0.15 U) - 0.031 [ND(0.061 U)/0.032 J]	P2RT-3-4 (36 - 48 in)	0.037	0.014	0.035	0.031	1	0	0	0
All Samples	104/214 (49%)	ND(0.23 U) - 42 J	P2RT-18-1 (0 - 2 in)	0.68	3.2	0.12	0.060	22	56	24	2
Coarse											
0 - 2	8/15 (53%)	ND(0.10 U) - 2.0 J	P2RT-1-2 (0 - 2 in)	0.24	0.53	0.074	0.050	4	3	1	0
2 - 6	10/14 (71%)	ND(0.064 U) - 3.0 J	P2RT-1-2 (2 - 6 in)	0.32	0.79	0.091	0.057	6	3	1	0
6 - 12	4/6 (67%)	[ND(0.082 U)/ND(0.089 U)] - 0.77 J	P2RT-14-7 (6 - 12 in)	0.29	0.32	0.13	0.16	1	3	0	0
12 - 24	1/2 (50%)	ND(0.10 U) - 3.5 J	P2RT-14-7 (12 - 24 in)	1.8	2.4	0.42	1.8	0	0	1	0
24 - 36	0/2 (0%)	ND(0.059 U) - ND(0.10 U)	NA	--	--	--	ND	0	0	0	0
> 36	0/1 (0%)	ND(0.098 U)	NA	--	--	--	ND	0	0	0	0
All Samples	23/40 (58%)	ND(0.10 U) - 3.5 J	P2RT-14-7 (12 - 24 in)	0.34	0.77	0.090	0.050	11	9	3	0
Fine											
0 - 2	29/32 (91%)	ND(0.16 U) - 42 J	P2RT-18-1 (0 - 2 in)	2.5	7.5	0.56	0.52	2	15	11	1
2 - 6	24/33 (73%)	ND(0.19 U) - 17 J	P2RT-18-1 (2 - 6 in)	1.1	3.1	0.23	0.19	4	14	5	1
6 - 12	10/31 (32%)	ND(0.19 U) - 1.4	P2RT-DEPOSIT-1 (6 - 12 in)	0.20	0.34	0.086	0.048	0	8	2	0
12 - 24	8/41 (20%)	[ND(0.19 U)/ND(0.17 U)] - 1.5 [1.4/1.7]	P2RT-DEPOSIT-1 (12 - 20 in)	0.16	0.35	0.062	0.041	1	4	3	0
24 - 36	3/14 (21%)	ND(0.23 U) - 0.25	P2RT-3-5 (24 - 36 in)	0.079	0.073	0.059	0.051	1	2	0	0
> 36	1/15 (7%)	ND(0.15 U) - 0.031 [ND(0.061 U)/0.032 J]	P2RT-3-4 (36 - 48 in)	0.036	0.014	0.034	0.031	1	0	0	0
All Samples	75/166 (45%)	ND(0.23 U) - 42 J	P2RT-18-1 (0 - 2 in)	0.79	3.6	0.12	0.061	9	43	21	2
NR											
0 - 2	2/3 (67%)	ND(0.064 U) - 0.28 J	P2RT-16-9 (0 - 2 in)	0.12	0.14	0.066	0.032	1	1	0	0
2 - 6	3/3 (100%)	0.053 [0.044 J/0.061] - 0.23 J	P2RT-16-9 (2 - 6 in)	0.15	0.089	0.13	0.17	1	2	0	0
6 - 12	1/2 (50%)	[ND(0.059 U)/ND(0.060 U)] - 0.15 J	P2RT-18-9 (6 - 10 in)	0.091	0.086	0.067	0.091	0	1	0	0
All Samples	6/8 (75%)	ND(0.064 U) - 0.28 J	P2RT-16-9 (0 - 2 in)	0.12	0.100	0.085	0.10	2	4	0	0

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 4 -- Plainwell No. 2 Dam Area Sediment Summary of Total PCB Data

Depth Interval (inches)	Frequency of Detection	Total PCB (mg/kg)						Total Number of Samples within Specified Range			
		Data Range	Location of Max Detect	Arithmetic Mean	Standard Deviation	Geomean	Median	ND - 0.1	0.1 - 1.0	1.0 - 10	>10
Oxbow Sediment Samples											
Fine											
0 - 2	10/10 (100%)	0.80 - 42 J	P2RT-6-2 (0 - 2 in)	8.1	13	3.4	2.3	0	1	6	3
2 - 6	10/10 (100%)	0.59 J - 100 J	P2RT-6-2 (2 - 6 in)	16	31	4.1	3.9	0	3	5	2
6 - 12	9/10 (90%)	ND(0.12 U) - 23 J	P2RT-6-2 (6 - 12 in)	2.8	7.0	0.40	0.26	3	2	3	1
12 - 24	3/13 (23%)	ND(0.13 U) - 0.19	P2RT-7-7 (12 - 22 in)	0.064	0.041	0.057	0.055	2	1	0	0
24 - 36	1/9 (11%)	ND(0.13 U) - 0.054 J	P2RT-6-2 (24 - 27 in)	0.048	0.014	0.046	0.048	1	0	0	0
> 36	0/1 (0%)	ND(0.073 U)	NA	--	--	--	ND	0	0	0	0
All Samples	33/53 (62%)	ND(0.13 U) - 100 J	P2RT-6-2 (2 - 6 in)	5.0	15	0.38	0.19	6	7	14	6

Notes:
1) NA = Not applicable.
2) ND = Not detected.
3) NR = Not rated as fine or coarse as sample was located either between initial sediment probing locations (as directed by USEPA) or in sediment deposits not initially probed.
4) PCB = polychlorinated biphenyls
5) -- Due to lack of detection, arithmetic mean and standard deviation were not calculated.
6) Duplicate samples averaged.
7) NDs were counted as ½ the detection limit
8) Channel sediment samples collected from transects P2RT-1 through P2RT-5, P2RT-11 through P2RT-22, and P2RT-DEPOSIT-1 through P2RT-DEPOSIT-3.
9) Oxbow sediment samples collected from transects P2RT-6 through P2RT-10.
10) [ ] - Values in brackets represent a parent sample/duplicate sample pair
11) U = The compound was analyzed for but not detected.
12) J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 5 -- Bank Characteristics and Erosion Hazard Index Summary

Transect	Height/ Bankfull Height	Depth/ Bank Height	Root Density Value	Bank Angle (degrees)	Bank Angle Value	Surface Protection Value	Total Score
P2BN-01	1	1	1	55	4	1	8
P2BN-02	1	1	1	17	2	1	6
P2BN-03	5	7	7	48	3	4	26
P2BN-04	7	1	1	39	3	1	13
P2BN-05	6	1	1	43	3	1	12
P2BN-06	8	1	1	51	3	1	14
P2BN-07	1	1	1	20	2	1	6
P2BN-08	1	1	1	33	3	1	7
P2BN-09	1	1	1	50	4	1	8
P2BN-10	1	ND	ND	4	1	ND	ND
P2BN-11	1	ND	ND	3	1	ND	ND
P2BN-12	1	ND	ND	6	1	ND	ND
P2BN-13	1	ND	ND	4	1	ND	ND
P2BN-14	1	ND	ND	3	1	ND	ND
P2BN-15	1	ND	ND	3	1	ND	ND
P2BN-16	1	ND	ND	0	1	ND	ND
P2BN-17	1	ND	ND	0	1	ND	ND
P2BN-18	1	ND	ND	7	1	ND	ND
P2BN-19	1	1	1	32	3	1	7
P2BN-20	1	1	1	19	2	1	6
P2BN-21	4	6	4	37	3	4	21
P2BN-22	1	1	1	25	2	1	6
P2BN-23	1	1	1	84	6	4	13
P2BN-24	3	7	7	14	2	8	27
P2BN-25	1	1	1	39	3	1	7
P2BN-26	1	1	1	27	3	1	7
P2BN-27	1	1	1	12	2	5	10
P2BN-28	1	1	1	37	3	4	10
P2BN-29	1	1	1	23	2	1	6
P2BN-30	1	1	1	22	2	1	6
P2BN-31	1	1	1	17	2	1	6
P2BN-32	1	1	1	19	2	1	6
P2BN-33	1	1	1	11	2	1	6
P2BN-34	1	1	1	15	2	1	6
P2BN-35	2	1	4	47	4	5	16
P2BN-36	1	1	1	0	1	1	5
P2BN-37	1	1	1	2	1	1	5
P2BN-38	1	1	1	39	3	1	7
P2BN-39	NA	NA	NA	NA	NA	NA	NA
P2BS-01	1	1	1	24	2	1	6
P2BS-02	1	1	1	43	3	1	7
P2BS-03	1	1	1	18	2	1	6

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 5 -- Bank Characteristics and Erosion Hazard Index Summary

Transect	Height/ Bankfull Height	Depth/ Bank Height	Root Density Value	Bank Angle (degrees)	Bank Angle Value	Surface Protection Value	Total Score
P2BS-04	1	1	1	45	3	1	7
P2BS-05	1	1	1	34	3	1	7
P2BS-06	1	1	1	31	3	1	7
P2BS-07	5	1	1	26	2	1	10
P2BS-08	1	1	1	46	3	1	7
P2BS-09	1	1	1	35	3	1	7
P2BS-10	1	ND	ND	15	2	ND	ND
P2BS-11	1	ND	ND	8	1	ND	ND
P2BS-12	1	ND	ND	9	1	ND	ND
P2BS-13	1	ND	ND	11	2	ND	ND
P2BS-14	1	ND	ND	10	2	ND	ND
P2BS-15	1	ND	ND	ND	ND	ND	ND
P2BS-16	1	ND	ND	7	1	ND	ND
P2BS-17	1	ND	ND	0	1	ND	ND
P2BS-18	1	ND	ND	6	1	ND	ND
P2BS-19	1	1	1	47	3	1	7
P2BS-20	5	4	4	42	3	4	20
P2BS-21	1	4	4	29	3	4	16
P2BS-22	5	1	1	19	2	1	10
P2BS-23	1	1	4	83	6	4	16
P2BS-24	1	6	4	5	1	5	17
P2BS-25	1	1	1	31	2	1	6
P2BS-26	1	7	4	18	2	8	22
P2BS-27	1	1	1	55	4	2	9
P2BS-28	1	1	1	29	3	4	10
P2BS-29	1	1	1	22	2	1	6
P2BS-30	2	3	1	29	3	4	13
P2BS-31	2	1	1	37	3	1	8
P2BS-32	1	4	5	8	1	8	19
P2BS-33	1	1	1	10	1	1	5
P2BS-34	1	1	1	25	2	1	6
P2BS-35	1	1	1	29	3	1	7
P2BS-36	1	1	1	22	2	1	6
P2BS-37	1	1	1	9	1	4	8
P2BS-38	1	1	1	0	1	1	5
P2BS-39	NA	NA	NA	NA	NA	NA	NA

Notes

1) ND - Not Determined

2) NA - Not Applicable due to presence of stone footers.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 6 -- Characteristics of Bank Areas

			Bank Data					PCB Concentrations					PCB Removal Data			
Location ID	Bank Area Location	Targeted for removal?	Distance to Wastegate Structure (feet)	Bank Angle (degrees)	Bank height above water surface (feet)	Maximum Depth of Detectable PCB (inches)	Maximum Depth of PCB > 5 mg/kg (inches)	Depth-Weighted Total PCB (mg/kg)	Surface PCB (mg/kg)	Maximum PCB (mg/kg)	MPA	Shoreline Length (feet)	PCB-Containing Depth (inches)	PCB-Containing Volume (cy)	PCB mass (kg)	Percent of Total Mass
KRT11-TB-A	KRT11-TB-A		8300		1.2	12	0	0.5335	1.0200	1.0200	147	274	12	271	0.10	0.11
KRT11-TB-B	KRT11-TB-B		8330		0.7	14	0	0.6714	0.8530	0.8530	354	424	14	469	0.37	0.42
P2BN-04	P2BN-04		7190	39	3.8	12	0	0.0273	0.0275	0.0275	0	484	12	488	0.02	0.02
P2BN-05	P2BN-05		7480	43	2.4	6	0	0.0500	0.0500	0.0500	9	414	6	222	0.01	0.01
P2BN-06	P2BN-06		7840	51	3.9	20	0	0.0267	0.0265	0.0270	0	182	20	295	0.01	0.02
P2BN-07	P2BN-07		8110	20	0.8	6	0	1.4500	1.4500	1.4500	132	345	6	179	0.12	0.14
P2BN-08	P2BN-08		8360	33	1.5	18	0	1.0287	2.5800	2.5800	524	253	18	409	0.35	0.41
P2BN-10	P2BN-10	Y	8370	4	1.4	24	12	10.7498	31.0000	31.0000	3106	112	24	197	0.81	0.93
P2BN-19	P2BN-19		8800	32	1.8	24	0	0.8905	2.8700	2.8700	583	282	24	619	0.43	0.49
P2BN-20	P2BN-20	Y	9100	19	0.7	24	6	2.2000	6.0000	6.0000	833	281	24	631	0.61	0.69
P2BN-21	P2BN-21		9400	37	1.6	12	0	0.9690	1.7600	1.7600	309	186	12	204	0.16	0.18
P2BN-22	P2BN-22	Y	9610	25	0.6	12	6	3.0400	5.9400	5.9400	652	358	12	368	0.56	0.64
P2BN-23	P2BN-23		9760	84	2.4	14	0	0.5337	0.8800	0.8800	201	467	14	472	0.21	0.24
P2BN-24	P2BN-24		10000	14	2.3	20	0	0.5069	1.0600	1.0600	339	446	20	799	0.45	0.51
P2BN-25	P2BN-25		10320	39	2.3	12	0	0.4055	0.7190	0.7190	165	308	12	345	0.14	0.16
P2BN-26	P2BN-26	Y	10640	27	1.1	23	23	25.6157	7.6400	44.8000	11944	372	23	530	8.64	9.87
P2BN-27	P2BN-27	Y	9640	12	1.0	12	6	3.9800	5.8400	5.8400	921	298	12	339	0.77	0.88
P2BN-28	P2BN-28	Y	9940	37	1.5	23	8	3.6634	8.9000	12.8000	2290	297	23	622	2.80	3.20
P2BN-29	P2BN-29	Y	10150	23	1.6	12	0	1.9350	2.7400	2.7400	655	334	12	375	0.63	0.71
P2BN-30	P2BN-30	Y	10480	22	1.3	18	12	4.8000	7.0100	7.0100	1752	335	18	585	1.59	1.81
P2BN-31	P2BN-31	Y	10690	17	1.4	19	6	2.9469	7.6000	7.6000	1380	259	19	451	1.09	1.25
P2BN-32	P2BN-32	Y	10850	19	1.7	15	12	10.7616	9.0400	17.8000	3219	249	15	331	2.52	2.88
P2BN-33	P2BN-33	Y	11160	11	2.6	21	9	5.5437	14.5000	14.5000	2110	260	21	495	1.64	1.88
P2BN-34	P2BN-34	Y	11450	15	1.5	24	12	9.0150	10.5000	25.3000	4792	266	24	562	5.16	5.90
P2BN-35	P2BN-35	Y	11790	47	1.9	19	19	4.4044	1.5100	24.6000	1907	166	19	271	1.00	1.14
P2BN-36	P2BN-36	Y	12110	-3	0.9	21	0	2.2057	3.6200	3.8300	1306	263	21	508	1.22	1.39
P2BN-37	P2BN-37	Y	12370	2	0.9	18	12	11.0167	5.8600	26.8000	3409	275	18	454	3.79	4.33
P2BN-38	P2BN-38		12660	39	2.6	12	0	0.2218	0.3835	0.3835	89	499	12	558	0.14	0.16
P2BS-03	P2BS-03	Y	6630	18	1.3	20	12	16.5368	38.0000	38.0000	5861	401	20	742	8.11	9.27
P2BS-04	P2BS-04	Y	7180	45	1.2	24	12	6.6920	14.2000	14.2000	2370	197	24	415	1.12	1.28
P2BS-05	P2BS-05		7460	34	1.4	6	0	4.9800	4.9800	4.9800	476	315	6	169	0.40	0.46
P2BS-06	P2BS-06		7880	31	1.1	22	0	2.1391	3.9400	3.9400	1085	272	22	531	0.79	0.90
P2BS-07	P2BS-07		8070	26	1.8	12	0	0.4615	0.8400	0.8400	147	235	12	257	0.10	0.11
P2BS-08	P2BS-08		8380	46	1.7	12	0	1.6350	2.2600	2.2600	515	389	12	364	0.48	0.54
P2BS-09	P2BS-09	Y	8510	35	1.2	12	0	0.0645	0.0490	0.0800	11	492	12	543	0.02	0.02
P2BS-10	P2BS-10	Y	8420	15	1.1	12	6	11.5500	19.3000	19.3000	3118	226	12	242	2.57	2.94

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Conceptual Design Report for Bank Removal and Restoration Plainwell No. 2 Dam Area

Table 6 -- Characteristics of Bank Areas

			Bank Data					PCB Concentrations					PCB Removal Data			
Location ID	Bank Area Location	Targeted for removal?	Distance to Wastegate Structure (feet)	Bank Angle (degrees)	Bank height above water surface (feet)	Maximum Depth of Detectable PCB (inches)	Maximum Depth of PCB > 5 mg/kg (inches)	Depth-Weighted Total PCB (mg/kg)	Surface PCB (mg/kg)	Maximum PCB (mg/kg)	MPA	Shoreline Length (feet)	PCB-Containing Depth (inches)	PCB-Containing Volume (cy)	PCB mass (kg)	Percent of Total Mass
P2BS-19	P2BS-19	Y	8780	47	1.2	24	12	9.2458	11.4000	23.4000	4679	290	24	624	3.48	3.97
P2BS-20	P2BS-20	Y	9100	42	1.9	12	6	5.2050	5.8300	5.8300	1404	310	12	344	1.22	1.39
P2BS-21	P2BS-21	Y	9410	29	0.9	24	18	11.9250	1.1700	41.7000	6047	210	24	440	4.72	5.39
P2BS-22	P2BS-22	Y	9510	19	0.9	14	12	7.7686	7.7100	9.3700	2546	208	14	259	1.43	1.64
P2BS-23	P2BS-23		9690	83	2.7	24	0	1.0195	2.5200	2.5200	747	319	24	735	0.68	0.78
P2BS-24	P2BS-24	Y	10050	5	1.9	12	0	2.3630	4.0800	4.0800	728	357	12	399	0.76	0.87
P2BS-25	P2BS-25	Y	10380	31	0.9	12	12	18.7000	29.5000	29.5000	4504	300	12	331	3.58	4.09
P2BS-26	P2BS-26	Y	10670	18	0.7	14	14	6.9314	5.5600	7.9600	1829	258	14	333	1.33	1.52
P2BS-27	P2BS-27	Y	9680	55	1.1	19	9	9.7327	12.2000	35.0000	4250	220	19	364	2.44	2.79
P2BS-28	P2BS-28	Y	9980	29	1.7	21	0	1.7289	2.5100	2.5100	971	197	21	392	0.55	0.62
P2BS-29	P2BS-29	Y	10210	22	1.4	13	0	1.2127	2.5400	2.5400	472	225	13	264	0.35	0.40
P2BS-30	P2BS-30	Y	10420	29	1.8	23	10	2.8960	3.6700	10.2000	2134	268	23	529	1.94	2.21
P2BS-31	P2BS-31		10580	37	2.3	12	0	0.1510	0.2430	0.2430	65	237	12	362	0.06	0.07
P2BS-32	P2BS-32		10920	8	1.2	12	0	1.0950	2.0300	2.0300	296	270	12	302	0.20	0.23
P2BS-33	P2BS-33		11180	10	1.4	12	0	1.3700	1.5500	1.5500	491	333	12	373	0.46	0.52
P2BS-34	P2BS-34		11470	25	1.5	12	0	0.2468	0.2535	0.2535	88	361	12	374	0.08	0.09
P2BS-35	P2BS-35		11780	29	1.3	12	12	9.8750	12.8000	12.8000	2395	370	12	367	2.11	2.41
P2BS-36	P2BS-36		12100	22	1.2	12	0	3.1450	3.5700	3.5700	766	313	12	325	0.63	0.72
P2BS-37	P2BS-37		12370	9	1.8	12	0	1.2985	2.4000	2.4000	408	285	12	266	0.29	0.33
P2BS-38	P2BS-38		12670	0	2.3	21	0	2.3529	1.7700	6.0000	1476	433	21	828	1.41	1.61
P2FP-001	P2FP-001	Y	7110		0.5	18	12	6.2887	18.4000	18.4000	1659	328	18	566	1.58	1.81
P2FP-025	P2FP-025	Y	9330		0.7	15	0	3.3107	11.7000	11.7000	990	155	15	212	0.40	0.46
P2FP-053	P2FP-053	Y	10070		0.6	24	0	18.6100	12.7000	59.9000	8432	155	24	350	3.69	4.21
P2FP-093	P2FP-093	Y			8.0	12	0	0.2395	0.4130	0.4130	155	141	12	167	0.05	0.06
P2FP-094	P2FP-094	Y	11810		1.7	27	0	5.3621	12.2000	12.2000	5525	542	27	694	5.17	5.91

Notes

1) Bank height is the difference between the surface elevation of the top-of-bank soil sample and the estimated median water elevation.
2) Areas P2BN-29, P2BN-36, P2BS-09, P2BS-28 and P2BS-29 are included for removal due to constructability considerations, as they each connect two other removal areas and create contiguousness of the proposed removal area.
3) These locations are not being removed because of PCB concentrations.
4) Areas P2BS-35 and P2BS-38 are excluded from proposed removal due to access and habitat considerations.
5) Areas P2BN-01, P2BN-02, P2BN-03, P2BS-01, and P2BS-02 are not included due to their locations along the mill race.
6) MPA = mass of PCB per unit surface area (mg/m^3)
7) mg/kg = milligrams per kilogram
8) PCB = polychlorinated biphenyls
9) cy = cubic yards

ARCADIS

Figures

Saugatuck
Village of Douglas
I-196
RABBIT RIVER
MANN CREEK
BEAR CREEK
Fennville
M-40
LAKE ALLEGAN DAM
ALLEGAN COUNTY
Wayland
US-131
Hastings
BARRY COUNTY
LAKE MICHIGAN
Allegan
ALLEGAN CITY DAM
116th Ave
SWAN CREEK
M-89
SCHNABLE BROOK
GUN RIVER
OTSEGO CITY DAM
TROWBRIDGE DAM
OTSEGO DAM
Plainwell
Otsego
BASE LINE CREEK
PLAINWELL DAM
M-89
PLAINWELL NO. 2 DAM (PROJECT LOCATION)
South Haven
Gobles
VAN BUREN COUNTY
KALAMAZOO COUNTY
SPRING BROOK
Gull Rd
CALHOUN COUNTY
Parchment
Springfield
Bangor
US-131
Galesburg
Battle Creek
E Michigan Ave
I-94
MORROW LAKE DAM
Kalamazoo
I-94
Portage
BERRIEN COUNTY

LEGEND:

- ROAD
- RAILROAD
- KALAMAZOO RIVER/PORTAGE CREEK
- CREEKS/RIVERS/STREAMS/PONDS/LAKES
- INCORPORATED AREA
- COUNTY BOUNDARY

0 4 8 Miles

GRAPHIC SCALE

NOTES:

1. KALAMAZOO RIVER SHORELINE APPROXIMATED FROM AERIAL PHOTOGRAPHY COLLECTED IN 1999.
2. BASEMAPPING PROVIDED BY THE MICHIGAN CENTER FOR GEOGRAPHIC INFORMATION.

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

PROJECT LOCATION MAP

ARCADIS

FIGURE 1

SYR-90 MTK
KRSG (B0064539.0000.00640)
Q:\KRSG\MorrowDamToPlainwellDam\SRI_DamNo2ConceptualDesign\mxd\Project Location Map_v2.mxd - 11/3/2008 @ 11:56:22 AM

08-032-001-00
ALBERTSON BONNIE & DAN
186 8TH ST
PLAINWELL, MI 49080

08-032-010-00
ARCAN LAND COMPANY LLC
1525 KING HWY
KALAMAZOO, MI 49048

LEFT DIVERSION STRUCTURE

08-032-040-00
MICH DEPT OF NATURAL RESOURCES
PO BOX 30735
LANSING, MI 48909-8235

RIGHT DIVERSION STRUCTURE

08-032-020-10
ROWLETT JEFFREY
126 S 10TH ST
PLAINWELL, MI 49080

08-032-021-00
JORDAN DORIS H
122 S 10TH ST
PLAINWELL, MI 49080

08-032-015-00
CONSUMERS ENERGY
4000 CLAY AVE SW PO BOX 201
GRAND RAPIDS, MI 49501-0201

08-032-005-00
HESTER GLADYS M & JODY M TRUST
808 RIVERVIEW RD
PLAINWELL, MI 49080

08-033-011-00
MERRITT JEFFREY & SUE A
768 RIVERVIEW
PLAINWELL, MI 49080

08-033-009-20
LIBERTY LIMITED PARTNERSHIP
2592 SEYMOURE
SHELBYVILLE, MI 49344

08-033-009-10
STEELE DAVID & KATHRYN
698 RIVERVIEW DR
PLAINWELL, MI 49080

08-032-005-10
THOMPSON STEELE DIANA
5131 CLUB TERRACE
YORBA LINDA, CA 92886

08-033-009-30
STEELE DAVID & KATHRYN
754 RIVERVIEW DR
PLAINWELL, MI 49080

08-032-006-00
SIMONS PAUL & MICHELLE
100 S 10TH ST
PLAINWELL, MI 49080

08-033-012-00
STEELE BRUCE D TRUST
326 RIVERVIEW DR
PLAINWELL, MI 49080

08-032-022-00
HAMILTON RONALD
10353 N 17TH ST
PLAINWELL, MI 49080

08-032-026-10
TALSMA KENNETH J & EMILY M
91 S 10TH ST
PLAINWELL, MI 49080

08-032-026-20
HOWE ALUMINUM PRODUCTS INC
150 10TH ST
PLAINWELL, MI 49080

08-032-040-00
MICH DEPT OF NATURAL RESOURCES
PO BOX 30735
LANSING, MI 48909-8235

08-032-024-00
BARRETT CHARLES E III
94 10TH ST
PLAINWELL, MI 49080

08-033-007-00
CONSUMERS ENERGY
4000 CLAY AVE SW PO BOX 201
GRND RAPIDS, MI 49501-0201

08-032-025-00
COBBLE DANIELLE M
90 S 10TH ST
PLAINWELL, MI 49080

08-032-028-00
HOWE ALUMINUM PRODUCTS INC
150 10TH ST
PLAINWELL, MI 49080

08-033-009-00
STEELE MARY H TRUST
326 RIVERVIEW DR
PLAINWELL, MI 49080

08-032-023-00
FINCH JOHN H
86-B 10TH ST
PLAINWELL, MI 49080

08-032-029-00
HERRICK ROSS A
9440 N 24TH ST
RICHLAND, MI 49083

08-032-040-00
MICH DEPT OF NATURAL RESOURCES
PO BOX 30735
LANSING, MI 48909-8235

08-032-033-00
WINKLE TERRY & LOUANNE
916 BROWNELL SE
GRAND RAPIDS, MI 49508

08-033-012-00
STEELE BRUCE D TRUST
326 RIVERVIEW DR
PLAINWELL, MI 49080

08-032-032-00
FINCH FAMILY REVOCABLE TRUST
35390 SWEET LAKE DR
GOBLES, MI 49055

08-032-039-00
SIMONS PAUL & MICHELLE
100 10TH ST
PLAINWELL, MI 49080

08-032-030-00
SIMONS PAUL A & MICHELLE S
100 10TH ST
PLAINWELL, MI 49080

08-032-040-00
MICH DEPT OF NATURAL RESOURCES
PO BOX 30735
LANSING, MI 48909-8235

08-032-041-00
MICH DEPT OF NATURAL RESOURCES
PO BOX 30735
LANSING, MI 48909-8235

08-032-037-00
MOLAAW, INC
2015 RAVINE RD
KALAMAZOO, MI 49007

08-032-040-00
MICH DEPT OF NATURAL RESOURCES
PO BOX 30735
LANSING, MI 48909-8235

08-032-026-00
PRITCHARD WILLIAM
79 10TH ST
PLAINWELL, MI 49080

08-032-036-00
FEDDEMA REALTY LLC
1305 WOHLERT ST
ANGOLA, IN 46703

08-032-034-11
BUELTMANN FREDERICK J
49 S 10TH ST
PLAINWELL, MI 49080

08-033-007-00
CONSUMERS ENERGY
4000 CLAY AVE SW PO BOX 201
GRND RAPIDS, MI 49501-0201

08-032-038-00
FEDDEMA REALTY LLC
1305 WOHLERT ST
ANGOLA, IN 46703

08-033-018-00
STEELE BRUCE D TRUST
326 RIVERVIEW DR
PLAINWELL, MI 49080

08-032-034-10
SIMONS PAUL & MICHELLE
100 10TH ST
PLAINWELL, MI 49080

08-032-027-00
HODGMAN EDWARD L & RONALD ET AL
75 10TH ST
PLAINWELL, MI 49080

DOUGLAS AVE

08-033-017-00
MICH DEPT OF NAT'L RESOURCE
PO BOX 30735
LANSING, MI 48909-8235

08-032-035-00
BOUDREAU JOHN G
56 10TH ST
PLAINWELL, MI 49080

08-032-042-00
MC MURTRIE EDWARD
812 W BASELINE RD
PLAINWELL, MI 49080

08-032-035-10
BOUDREAU JOHN G
56 10TH ST
PLAINWELL, MI 49080

LEGEND:
- TAX PARCEL
- STATE-OWNED PARCEL
- SHORELINE (APPROXIMATE)

0 400 800 Feet
GRAPHIC SCALE

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

PLAINWELL NO. 2 DAM AREA PROPERTY OWNERSHIP

ARCADIS

FIGURE 2

SYR-90 MTK KEW
KRSG (64538.00500)
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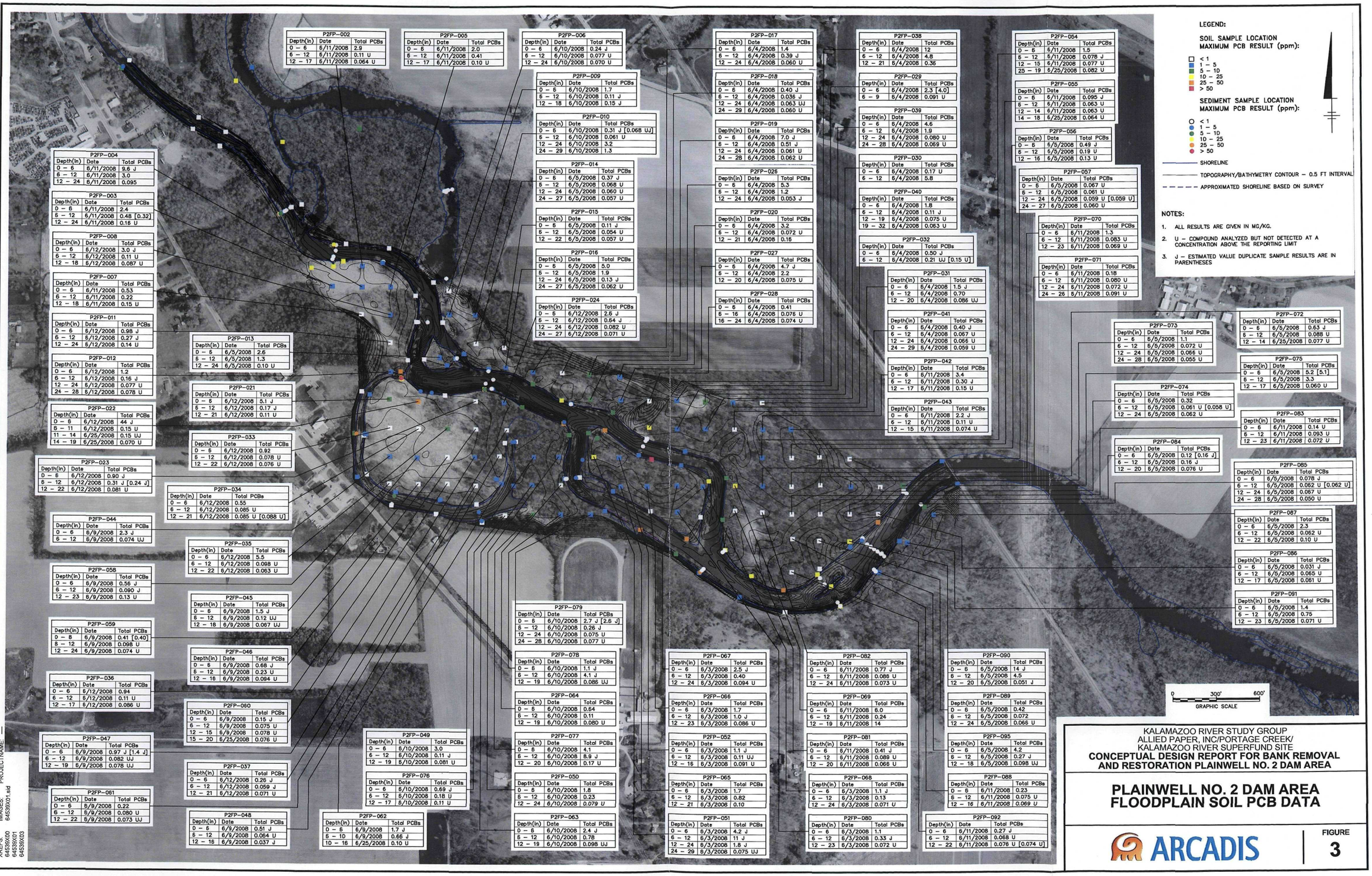

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KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

PLAINWELL NO. 2 DAM AREA FLOODPLAIN SOIL PCB DATA

ARCADIS

FIGURE 3

CITY:SYRACUSE DIV/GROUP:141 DB:NES LD:(Opt) PIC:(Opt) PM:(Read) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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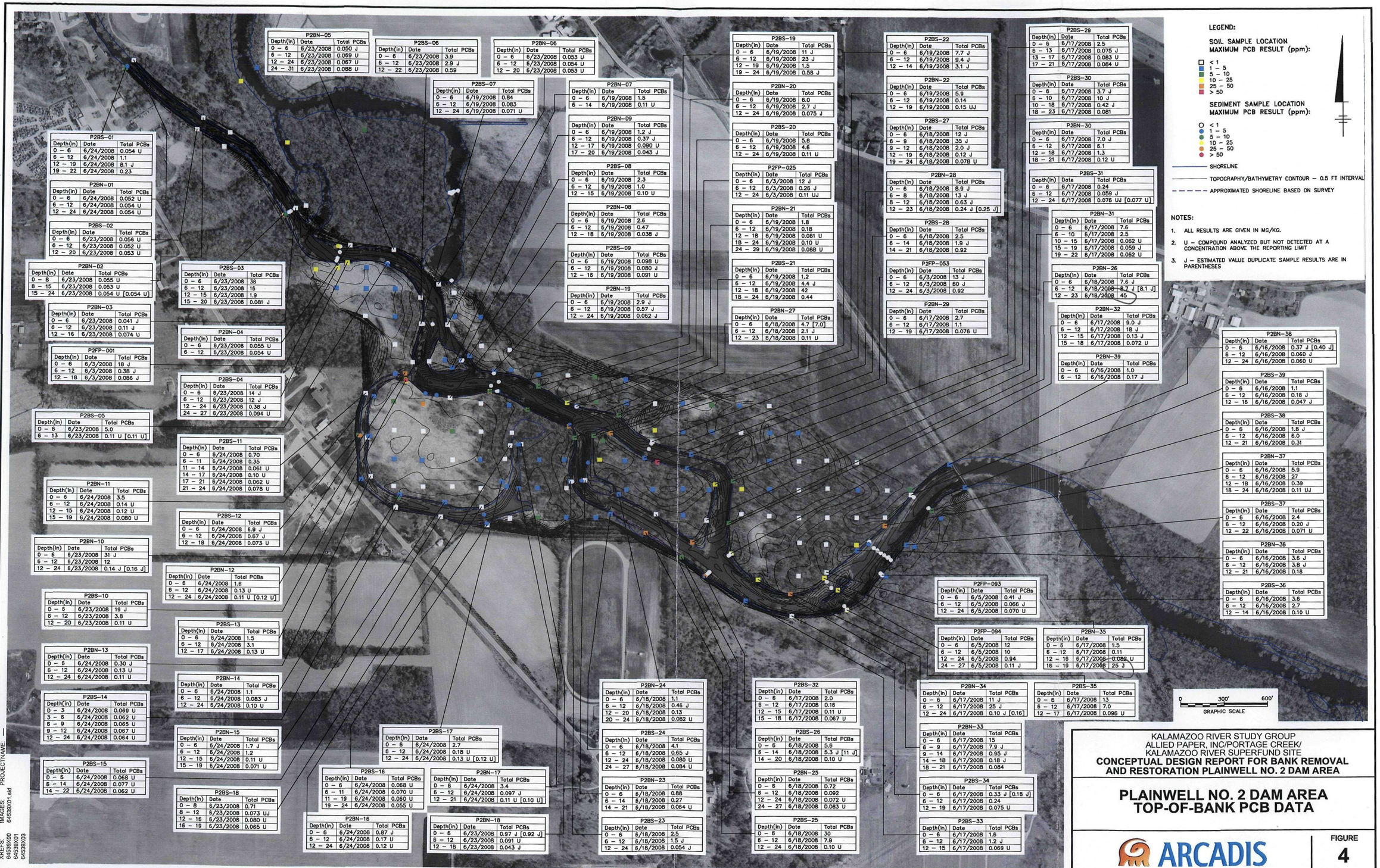
PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/3/2008 11:32 AM BY: POSENAUER, LISA
PROJECTNAME: —
IMAGES: 64539X01.sid
XREFS: 64539X00 64539X01 64539X03



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KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

PLAINWELL NO. 2 DAM AREA TOP-OF-BANK PCB DATA

ARCADIS

FIGURE 4

CITY:SYRACUSE DIV/GROUP:141 DB:NES LD:(Opt) PIC:(Opt) PM:(Read) TM:(Opt) LYR:(On)(Fr)=*OFF*;*REF* 17.0S (LMS TECH) PAGESETUP: —
G:\CAD\ACTIVE\64539X00\0050\DWG\CONCEPT\64539C050.DWG LAYOUT: 4SAVED: 11/3/2008 11:34 AM ACADVER: 11/3/2008 11:34 AM BY: POSENAUER, LISA —
XREFS: IMAGES: PROJECTNAME: —
64539X00
64539X01
64539X03
64539X01.sid

LEFT DIVERSION STRUCTURE

RIGHT DIVERSION STRUCTURE

DOUGLAS AVE

LEGEND:

SOIL SAMPLE LOCATION

MAXIMUM PCB RESULT (ppm):

- < 1
- 1 - 5
- 5 - 10
- 10 - 25
- 25 - 50
- > 50

SHORELINE (APPROXIMATE)

0 400 800 Feet

GRAPHIC SCALE

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

PLAINWELL NO. 2 DAM AREA MAXIMUM PCB RESULTS - SOIL

ARCADIS

FIGURE 5

SYR-90 MTK
KRSG (64539.00500)
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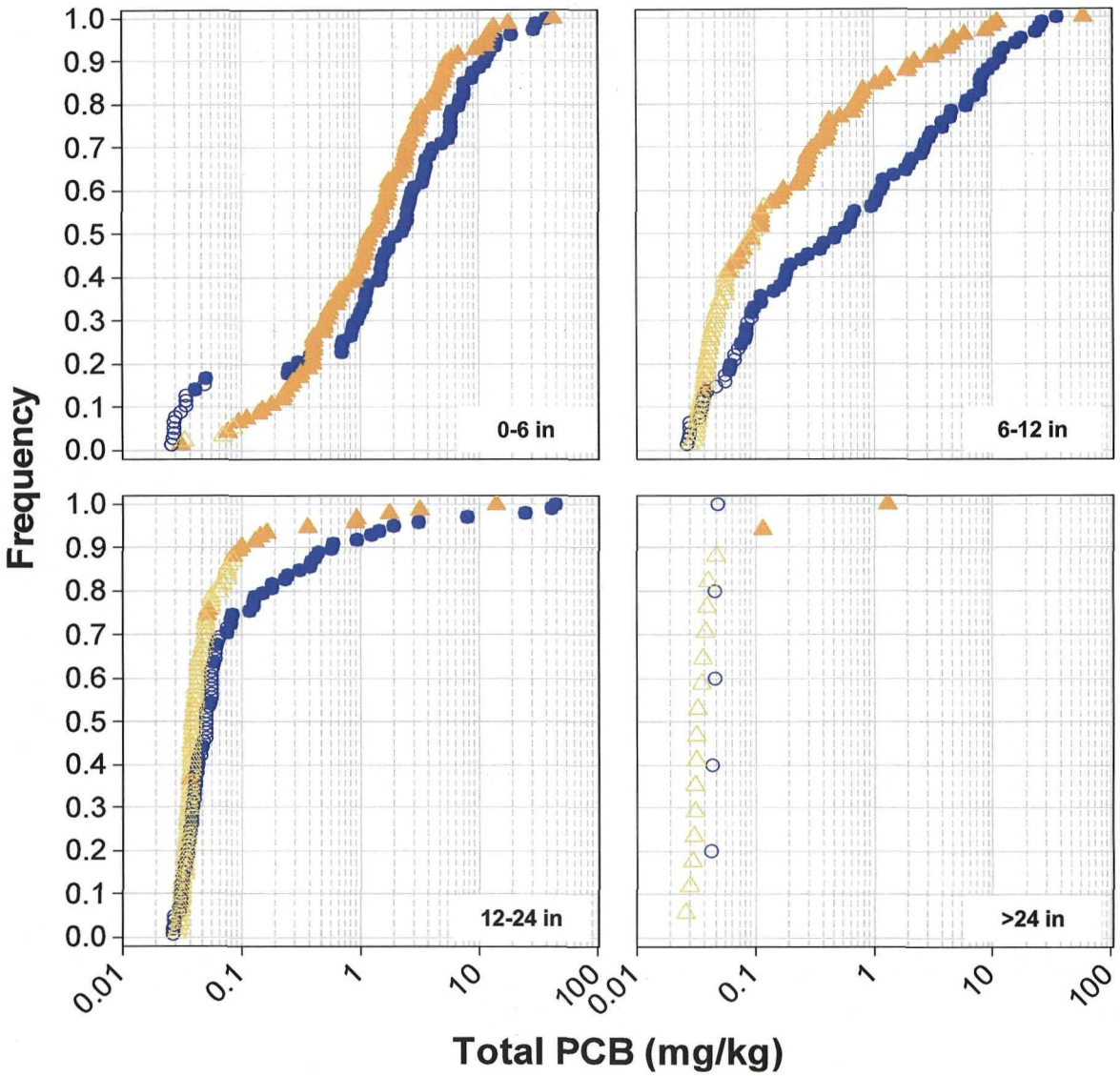


LEGEND

- ● Bank Soil Detected Result
- ○ Bank Soil Non-detect Result (½ the detection limit)
- ▲ Floodplain Soil Detected Result
- △ Floodplain Soil Non-detect Result (½ the detection limit)

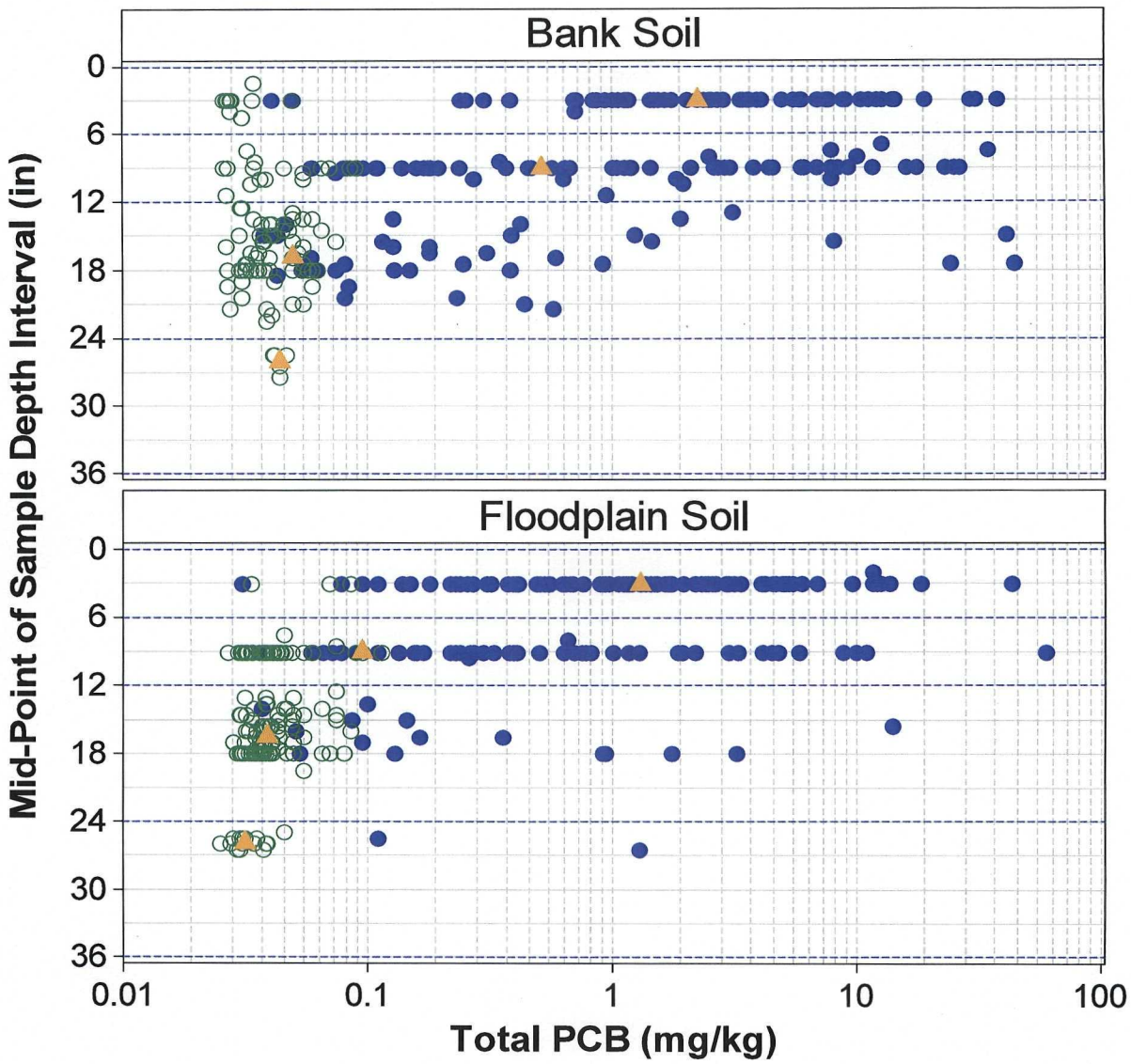
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

PCB FREQUENCY IN FLOODPLAIN AND BANK SOIL SAMPLES BY DEPTH

ARCADIS

FIGURE 6

\\MI3FP1\Data\COMMON\64524\10 Final Reports and Presentations\2008 Plainwell No. 2 Dam CDR\Soil Figures_110308.xls
9/26/2008
Project Number: B0065439.0000.00500



LEGEND

- Detected Result
- Non-detect Result (½ the detection limit)
- Median Result by Depth Interval (0-6, 6-12, 12-24, & 24-36 in)

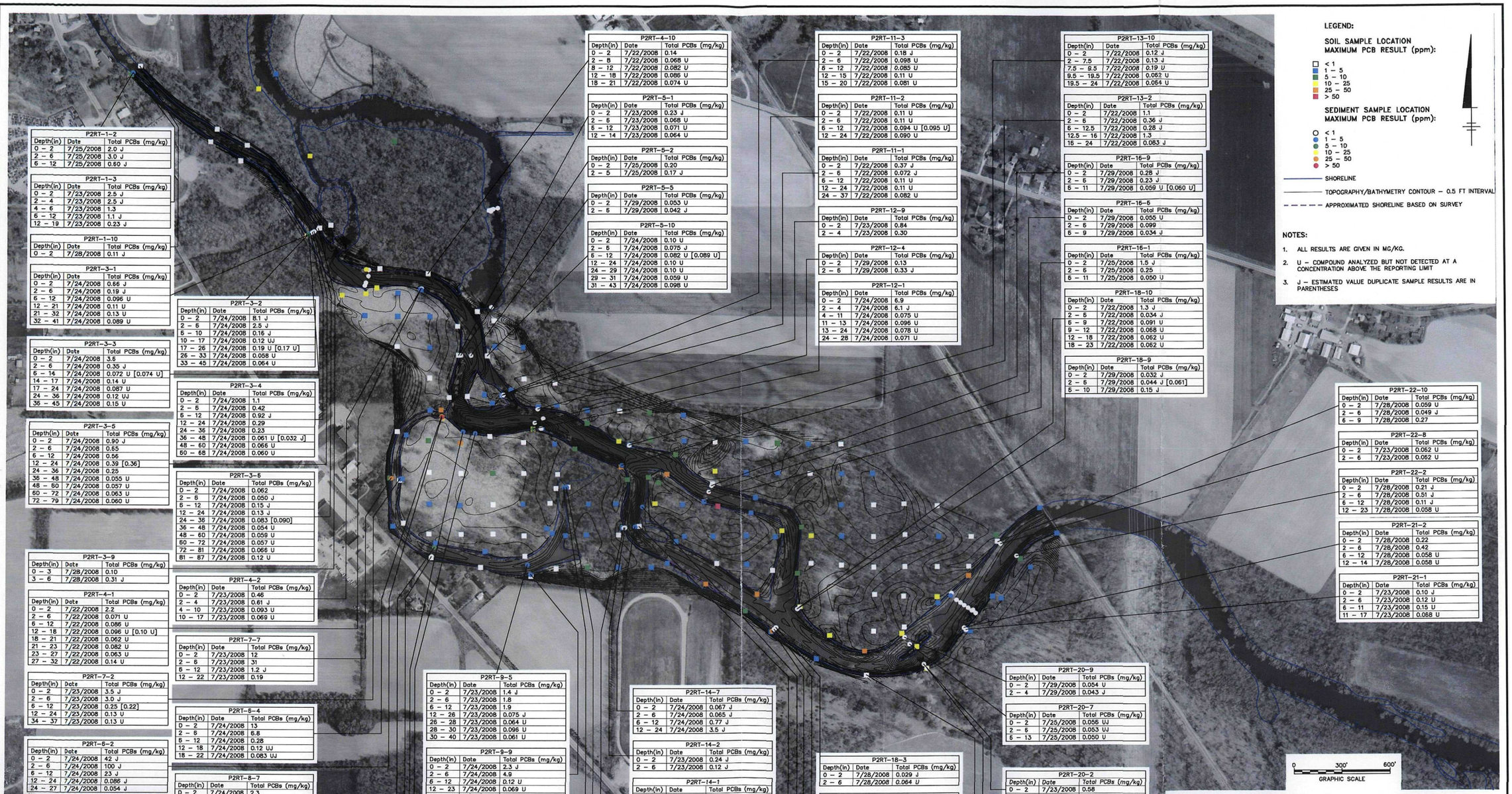
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

BANK AND FLOODPLAIN SOIL PCB RESULTS BY DEPTH

ARCADIS

FIGURE 7

\\MI3FP1\Data\COMMON\64524\10 Final Reports and Presentations\2008 Plainwell No. 2 Dam CDR\Soil Figures_110308.xls
9/26/2008
Project Number: B0065439.0000.00500



P2RT–1–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/25/2008	2.0 J
2 – 6	7/25/2008	3.0 J
6 – 12	7/25/2008	0.60 J

P2RT–1–3		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	2.5 J
2 – 4	7/23/2008	2.5 J
4 – 6	7/23/2008	1.3
6 – 12	7/23/2008	1.1 J
12 – 19	7/23/2008	0.23 J

P2RT–1–10		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/28/2008	0.11 J

P2RT–3–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	0.66 J
2 – 6	7/24/2008	0.19 J
6 – 12	7/24/2008	0.096 U
12 – 21	7/24/2008	0.11 U
21 – 32	7/24/2008	0.13 U
32 – 41	7/24/2008	0.089 U

P2RT–3–3		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	3.6
2 – 6	7/24/2008	0.35 J
6 – 14	7/24/2008	0.072 U [0.074 U]
14 – 17	7/24/2008	0.14 U
17 – 24	7/24/2008	0.087 U
24 – 36	7/24/2008	0.12 UJ
36 – 45	7/24/2008	0.15 U

P2RT–3–5		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	0.90 J
2 – 6	7/24/2008	0.65
6 – 12	7/24/2008	0.56
12 – 24	7/24/2008	0.39 [0.36]
24 – 36	7/24/2008	0.25
36 – 48	7/24/2008	0.055 U
48 – 60	7/24/2008	0.057 U
60 – 72	7/24/2008	0.063 U
72 – 79	7/24/2008	0.060 U

P2RT–3–9		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 3	7/28/2008	0.10
3 – 6	7/28/2008	0.31 J

P2RT–4–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/22/2008	2.2
2 – 6	7/22/2008	0.071 U
6 – 12	7/22/2008	0.086 U
12 – 18	7/22/2008	0.096 U [0.10 U]
18 – 21	7/22/2008	0.062 U
21 – 23	7/22/2008	0.082 U
23 – 27	7/22/2008	0.063 U
27 – 32	7/22/2008	0.14 U

P2RT–7–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	3.5 J
2 – 6	7/23/2008	3.0 J
6 – 12	7/23/2008	0.25 [0.22]
12 – 24	7/23/2008	0.13 U
34 – 37	7/23/2008	0.13 U

P2RT–8–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	42 J
2 – 6	7/24/2008	100 J
6 – 12	7/24/2008	23 J
12 – 24	7/24/2008	0.086 J
24 – 27	7/24/2008	0.054 J

P2RT–3–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	8.1 J
2 – 5	7/24/2008	2.5 J
5 – 10	7/24/2008	0.16 J
10 – 17	7/24/2008	0.12 UJ
17 – 26	7/24/2008	0.19 U [0.17 U]
26 – 33	7/24/2008	0.058 U
33 – 45	7/24/2008	0.064 U

P2RT–3–4		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	1.1
2 – 5	7/24/2008	0.42
5 – 12	7/24/2008	0.92 J
12 – 24	7/24/2008	0.29
24 – 36	7/24/2008	0.23
36 – 48	7/24/2008	0.061 U [0.032 J]
48 – 60	7/24/2008	0.065 U
60 – 68	7/24/2008	0.060 U

P2RT–3–6		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	0.062
2 – 6	7/24/2008	0.050 J
6 – 12	7/24/2008	0.15 J
12 – 24	7/24/2008	0.13 J
24 – 36	7/24/2008	0.083 [0.090]
36 – 48	7/24/2008	0.054 U
48 – 60	7/24/2008	0.059 U
60 – 72	7/24/2008	0.057 U
72 – 81	7/24/2008	0.066 U
81 – 87	7/24/2008	0.12 U

P2RT–4–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	0.46
2 – 4	7/23/2008	0.61 J
4 – 10	7/23/2008	0.093 U
10 – 17	7/23/2008	0.069 U

P2RT–7–7		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	12
2 – 6	7/23/2008	31
6 – 12	7/23/2008	1.2 J
12 – 22	7/23/2008	0.19

P2RT–5–4		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	13
2 – 6	7/24/2008	6.8
6 – 12	7/24/2008	0.28
12 – 18	7/24/2008	0.12 UJ
18 – 22	7/24/2008	0.083 UJ

P2RT–8–7		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	2.3
2 – 6	7/24/2008	6.1
6 – 12	7/24/2008	1.7
12 – 24	7/24/2008	0.13 U
24 – 33	7/24/2008	0.13 U

P2RT–8–8		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	0.80
2 – 6	7/24/2008	0.59 J
6 – 12	7/24/2008	0.063 J [0.079 J]
12 – 20	7/24/2008	0.094 U
20 – 24	7/24/2008	0.075 U
24 – 36	7/24/2008	0.078 U
36 – 39	7/24/2008	0.073 U

P2RT–4–10		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/22/2008	0.14
2 – 8	7/22/2008	0.068 U
8 – 12	7/22/2008	0.082 U
12 – 18	7/22/2008	0.086 U
18 – 21	7/22/2008	0.074 U

P2RT–5–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	0.23 J
2 – 6	7/23/2008	0.068 U
6 – 12	7/23/2008	0.071 U
12 – 14	7/23/2008	0.064 U

P2RT–5–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/25/2008	0.20
2 – 5	7/25/2008	0.17 J

P2RT–5–5		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/29/2008	0.053 U
2 – 6	7/29/2008	0.042 J

P2RT–5–10		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	0.10 U
2 – 6	7/24/2008	0.075 J
6 – 12	7/24/2008	0.082 U [0.089 U]
12 – 24	7/24/2008	0.10 U
24 – 29	7/24/2008	0.10 U
29 – 31	7/24/2008	0.059 U
31 – 43	7/24/2008	0.098 U

P2RT–9–5		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	1.4 J
2 – 6	7/23/2008	1.8
6 – 12	7/23/2008	1.9
12 – 26	7/23/2008	0.075 J
26 – 28	7/23/2008	0.064 U
28 – 30	7/23/2008	0.095 U
30 – 40	7/23/2008	0.061 U

P2RT–9–9		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	2.3 J
2 – 6	7/24/2008	4.9
6 – 12	7/24/2008	0.12 U
12 – 23	7/24/2008	0.069 U
23 – 27	7/24/2008	0.12 U

P2RT–Deposit–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	1.9 J
2 – 6	7/23/2008	0.097 J
6 – 12	7/23/2008	0.061 U
12 – 15	7/23/2008	0.091 U
15 – 24	7/23/2008	0.065 U
24 – 32	7/23/2008	0.061 U

P2RT–Deposit–3		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	1.9 J
2 – 6	7/23/2008	0.76 J
6 – 12	7/23/2008	0.12 U
12 – 24	7/23/2008	1.2
24 – 27	7/23/2008	0.23 U
27 – 37	7/23/2008	0.070 U

P2RT–10–7		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	1.1
2 – 6	7/24/2008	0.67
6 – 12	7/24/2008	0.072 J
12 – 24	7/24/2008	0.11 U
24 – 28	7/24/2008	0.072 U

P2RT–11–3		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/22/2008	0.18 J
2 – 6	7/22/2008	0.098 U
6 – 12	7/22/2008	0.085 U
12 – 15	7/22/2008	0.11 U
15 – 20	7/22/2008	0.081 U

P2RT–11–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/22/2008	0.11 U
2 – 6	7/22/2008	0.11 U
6 – 12	7/22/2008	0.094 U [0.095 U]
12 – 24	7/22/2008	0.090 U

P2RT–11–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/22/2008	0.37 J
2 – 6	7/22/2008	0.072 J
6 – 12	7/22/2008	0.11 U
12 – 24	7/22/2008	0.11 U
24 – 37	7/22/2008	0.082 U

P2RT–12–9		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	0.84
2 – 4	7/23/2008	0.30

P2RT–12–4		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/29/2008	0.13
2 – 5	7/29/2008	0.33 J

P2RT–12–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	6.9
2 – 4	7/24/2008	6.1 J
4 – 11	7/24/2008	0.075 U
11 – 13	7/24/2008	0.096 U
13 – 24	7/24/2008	0.078 U
24 – 28	7/24/2008	0.071 U

P2RT–14–7		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/24/2008	0.067 J
2 – 6	7/24/2008	0.065 J
6 – 12	7/24/2008	0.77 J
12 – 24	7/24/2008	3.5 J

P2RT–14–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	0.24 J
2 – 6	7/23/2008	0.12 J

P2RT–14–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/22/2008	0.41 J
2 – 6	7/22/2008	0.076 U
6 – 12	7/22/2008	0.075 U
12 – 21	7/22/2008	0.072 U
21 – 24	7/22/2008	0.068 U

P2RT–10–9		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	1.5
2 – 6	7/23/2008	0.99
6 – 12	7/23/2008	0.057 J [0.049 J]
12 – 19	7/23/2008	0.089 U
19 – 21	7/23/2008	0.066 U

P2RT–14–10		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/25/2008	0.097 J
2 – 4	7/25/2008	0.050 U

P2RT–18–3		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/28/2008	0.029 J
2 – 6	7/28/2008	0.064 U

P2RT–18–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/29/2008	0.064 U
2 – 4	7/29/2008	0.17

P2RT–18–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	42 J
2 – 6	7/23/2008	17 J
6 – 12	7/23/2008	0.22 J
12 – 18	7/23/2008	0.065 U

P2RT–Deposit–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	0.80 J
2 – 6	7/23/2008	1.1 J
6 – 12	7/23/2008	1.4
12 – 20	7/23/2008	1.4 [1.7]

P2RT–13–10		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/22/2008	0.12 J
2 – 7.5	7/22/2008	0.13 J
7.5 – 9.5	7/22/2008	0.19 U
9.5 – 19.5	7/22/2008	0.062 U
19.5 – 24	7/22/2008	0.064 U

P2RT–13–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/22/2008	1.1
2 – 6	7/22/2008	0.36 J
6 – 12.5	7/22/2008	0.28 J
12.5 – 16	7/22/2008	1.3
16 – 24	7/22/2008	0.083 J

P2RT–16–9		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/29/2008	0.28 J
2 – 6	7/29/2008	0.23 J
6 – 11	7/29/2008	0.059 U [0.060 U]

P2RT–16–6		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/29/2008	0.055 U
2 – 6	7/29/2008	0.099
6 – 9	7/29/2008	0.034 J

P2RT–16–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/25/2008	1.5 J
2 – 6	7/25/2008	0.25
6 – 11	7/25/2008	0.050 U

P2RT–18–10		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/22/2008	1.3 J
2 – 5	7/22/2008	0.034 J
5 – 9	7/22/2008	0.091 U
9 – 12	7/22/2008	0.068 U
12 – 18	7/22/2008	0.062 U
18 – 23	7/22/2008	0.062 U

P2RT–18–9		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/29/2008	0.032 J
2 – 5	7/29/2008	0.044 J [0.061]
5 – 10	7/29/2008	0.15 J

P2RT–20–9		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/29/2008	0.054 U
2 – 4	7/29/2008	0.043 J

P2RT–20–7		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/25/2008	0.056 UJ
2 – 5	7/25/2008	0.053 UJ
5 – 13	7/25/2008	0.050 U

P2RT–20–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	0.58
2 – 5	7/23/2008	0.37 J
5 – 8	7/23/2008	0.28

P2RT–20–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	0.083 U
2 – 5	7/23/2008	0.077 U
5 – 10	7/23/2008	0.075 U
10 – 18	7/23/2008	0.068 U

P2RT–19–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/22/2008	0.16 U
2 – 6	7/22/2008	0.19 U
6 – 11	7/22/2008	0.13 U
11 – 22	7/22/2008	0.058 U
22 – 25	7/22/2008	0.057 U
25 – 32	7/22/2008	0.060 U

P2RT–22–10		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/28/2008	0.059 U
2 – 6	7/28/2008	0.049 J
6 – 9	7/28/2008	0.27

P2RT–22–8		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	0.062 U
2 – 6	7/23/2008	0.062 U

P2RT–22–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/28/2008	0.21 J
2 – 6	7/28/2008	0.51 J
6 – 12	7/28/2008	0.11 J
12 – 23	7/28/2008	0.058 U

P2RT–21–2		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/28/2008	0.22
2 – 6	7/28/2008	0.42
6 – 12	7/28/2008	0.058 U
12 – 14	7/28/2008	0.058 U

P2RT–21–1		
Depth(in)	Date	Total PCBs (mg/kg)
0 – 2	7/23/2008	0.10 J
2 – 6	7/23/2008	0.12 U
6 – 11	7/23/2008	0.15 U
11 – 17	7/23/2008	0.088 U

LEGEND:

SOIL SAMPLE LOCATION MAXIMUM PCB RESULT (ppm):

- < 1
- 1 – 5
- 5 – 10
- 10 – 25
- 25 – 50
- > 50

SEDIMENT SAMPLE LOCATION MAXIMUM PCB RESULT (ppm):

- < 1
- 1 – 5
- 5 – 10
- 10 – 25
- 25 – 50
- > 50

SHORELINE

TOPOGRAPHY/BATHYMETRY CONTOUR – 0.5 FT INTERVAL

APPROXIMATED SHORELINE BASED ON SURVEY

NOTES:

1. ALL RESULTS ARE GIVEN IN MG/KG.
2. U – COMPOUND ANALYZED BUT NOT DETECTED AT A CONCENTRATION ABOVE THE REPORTING LIMIT
3. J – ESTIMATED VALUE DUPLICATE SAMPLE RESULTS ARE IN PARENTHESES

0 300' 600'
GRAPHIC SCALE

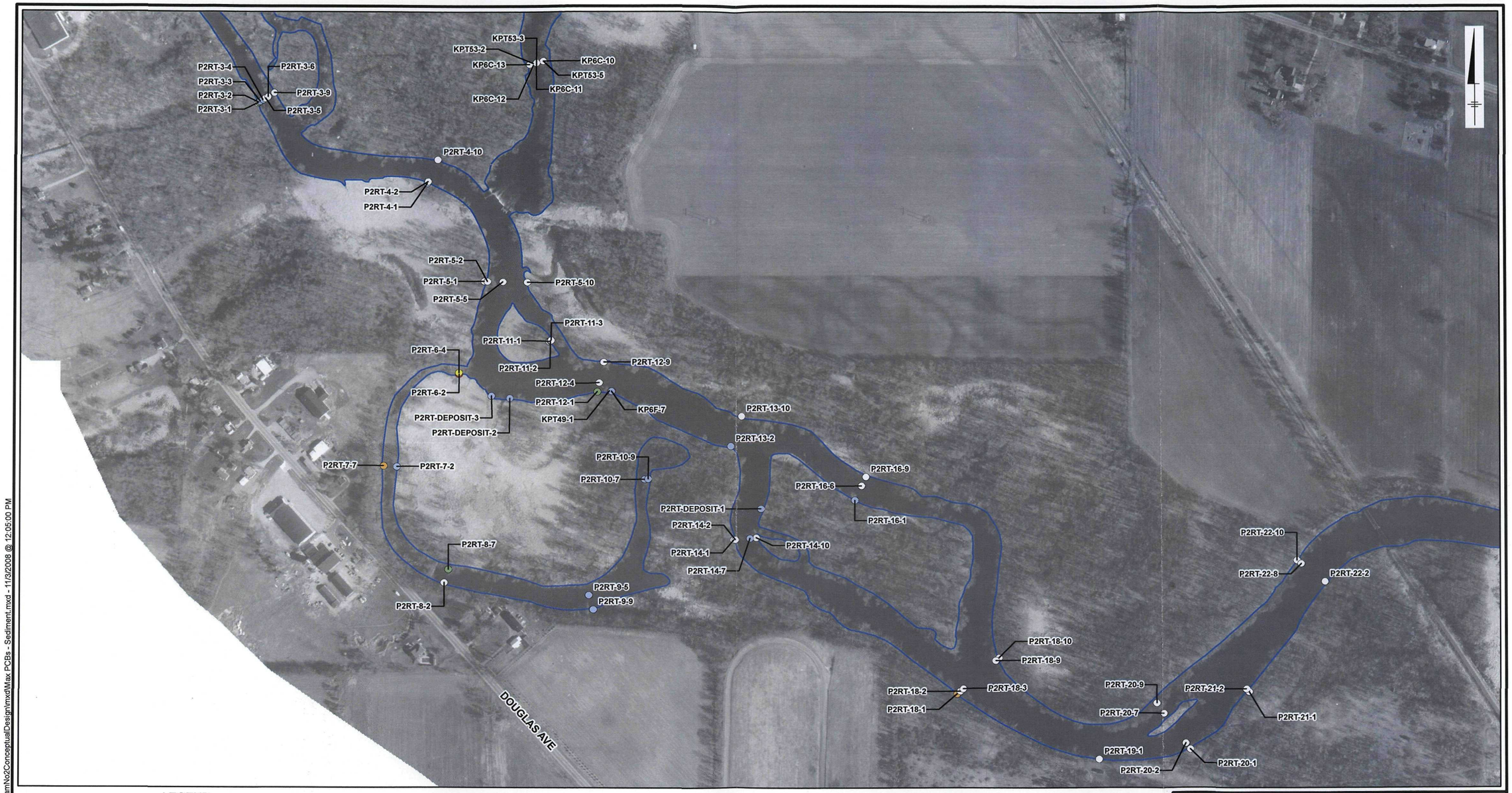
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC/PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

PLAINWELL NO. 2 DAM AREA SEDIMENT PCB DATA

ARCADIS

FIGURE 8

CITY:SYRACUSE DIV/GROUP:141 DB:NES LD:(Opt) PIC:(Opt) PM:(Req) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ACAD\ACTIB\06453990\000\005000\DWG\CONCEPT\6453C06.DWG LAYOUT: 8SAVED: 10/27/2008 3:26 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: —PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/3/2008 11:33 AM BY: POSENAUER, USA
XREFS: IMAGES: PROJECTNAME: —
6453990X00
6453990X01
6453990X03
6453990X01.sid



LEGEND:

SEDIMENT SAMPLE LOCATION

MAXIMUM PCB RESULT (ppm):

- < 1
- 1 - 5
- 5 - 10
- 10 - 25
- 25 - 50
- > 50

SHORELINE (APPROXIMATE)

0 400 800 Feet

GRAPHIC SCALE

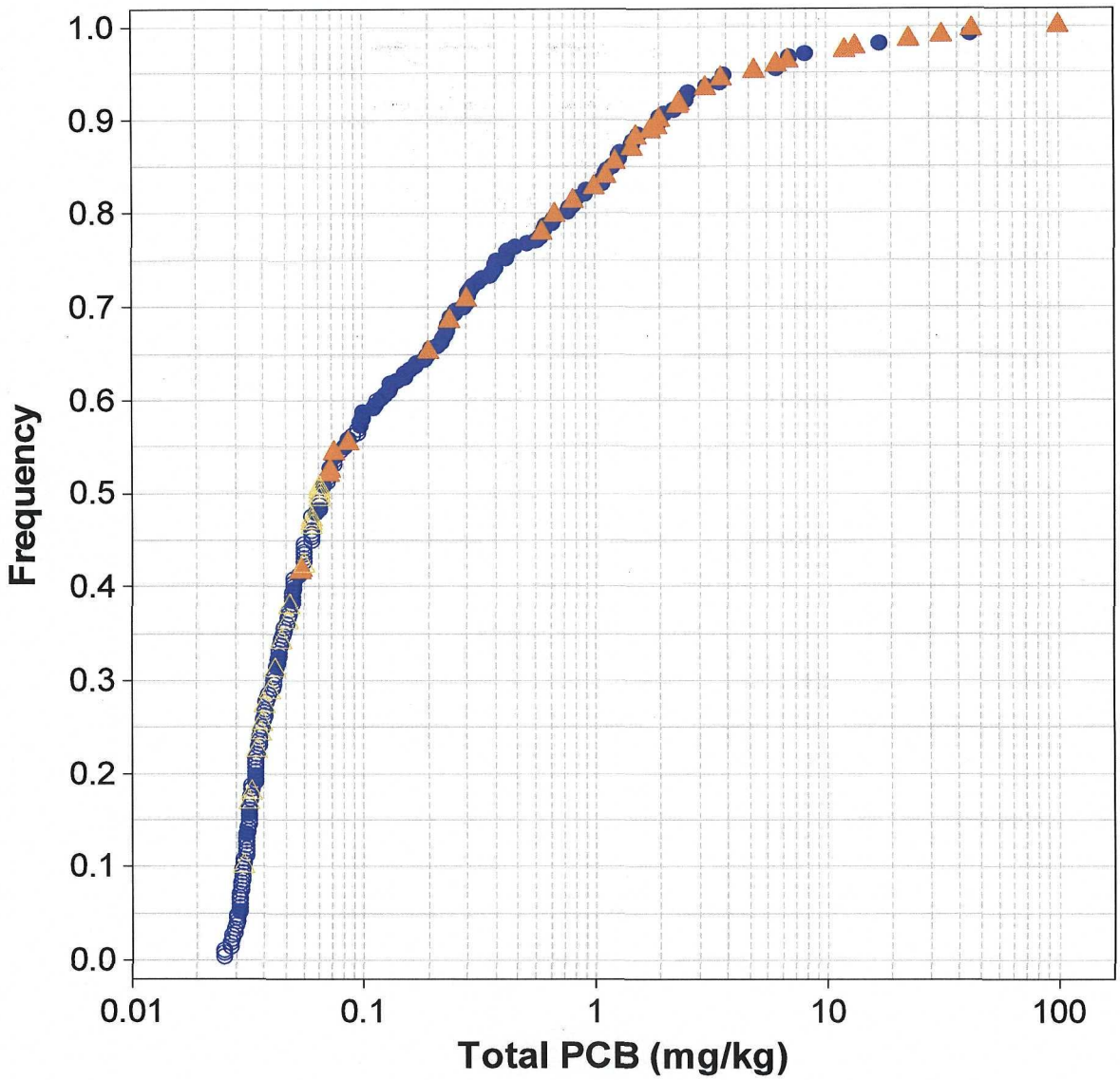
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

PLAINWELL NO. 2 DAM AREA MAXIMUM PCB RESULTS - SEDIMENT

ARCADIS

FIGURE 9

SYR-90 MTK
KRSG (64538.00500)
Q:\KRSG\MorrowDamToPlainwellDam\SRI_DamNo2ConceptualDesign\mxd\Max PCBs - Sediment.mxd - 11/3/2008 @ 12:05:00 PM



LEGEND

- ● Channel Sediment Detected Result
- ○ Channel Sediment Non-detect Result (½ the detection limit)
- ▲ Oxbow Sediment Detected Result
- △ Oxbow Sediment Non-detect Result (½ the detection limit)

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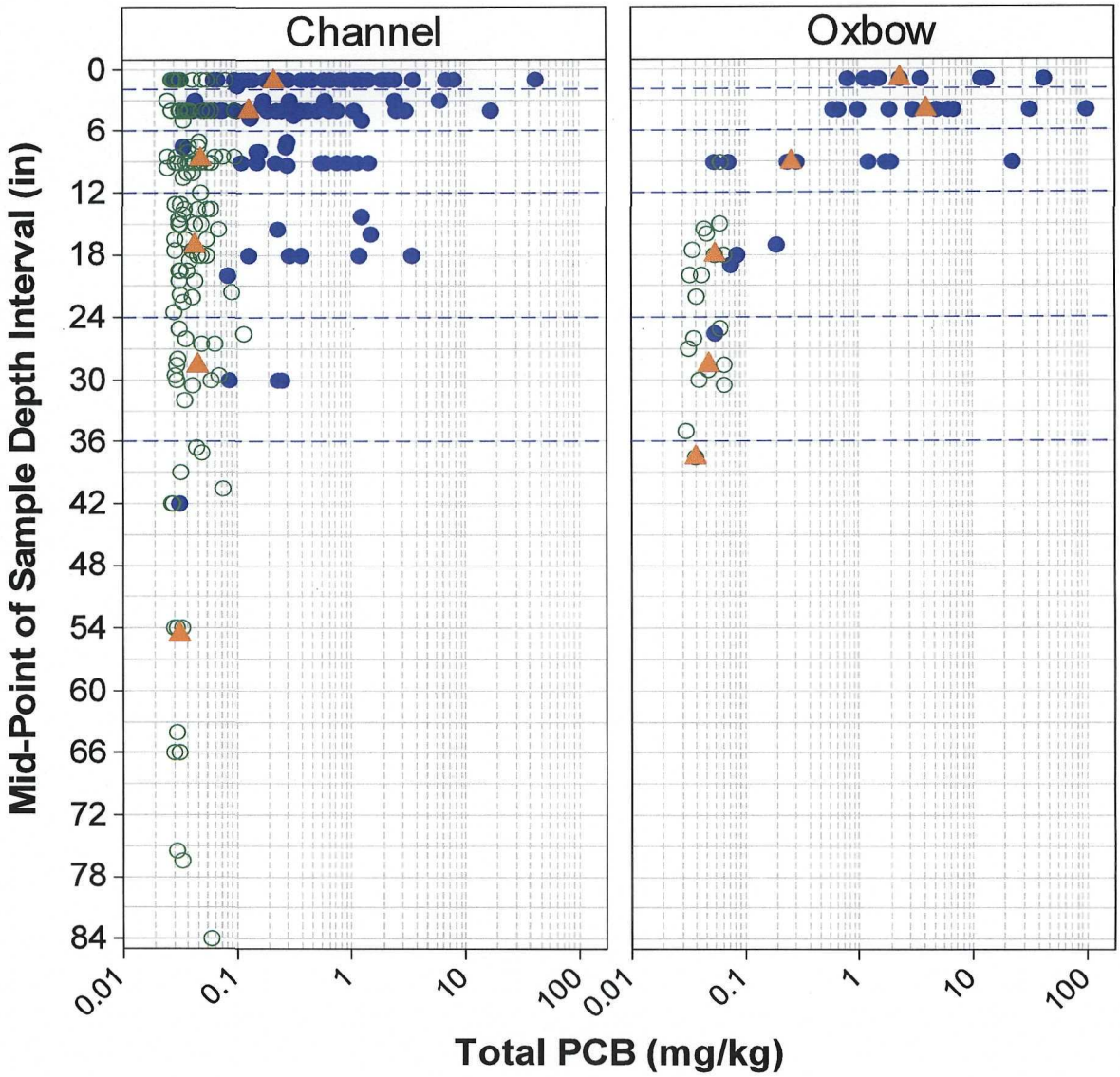
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM

PCB FREQUENCY IN SEDIMENT SAMPLES

ARCADIS

FIGURE 10

\\MI3FP1\Data\COMMON\64524\10 Final Reports and Presentations\2008 Plainwell No. 2 Dam CDR\Sediment Figures_110308.xls
9/26/2008
Project Number: B0065439.0000.00500



LEGEND

- Detected Result
- Non-detect Result (½ the detection limit)
- Median Result by Depth Interval (0-2, 2-6, 6-12, 12-24, 24-36, & >36 in)

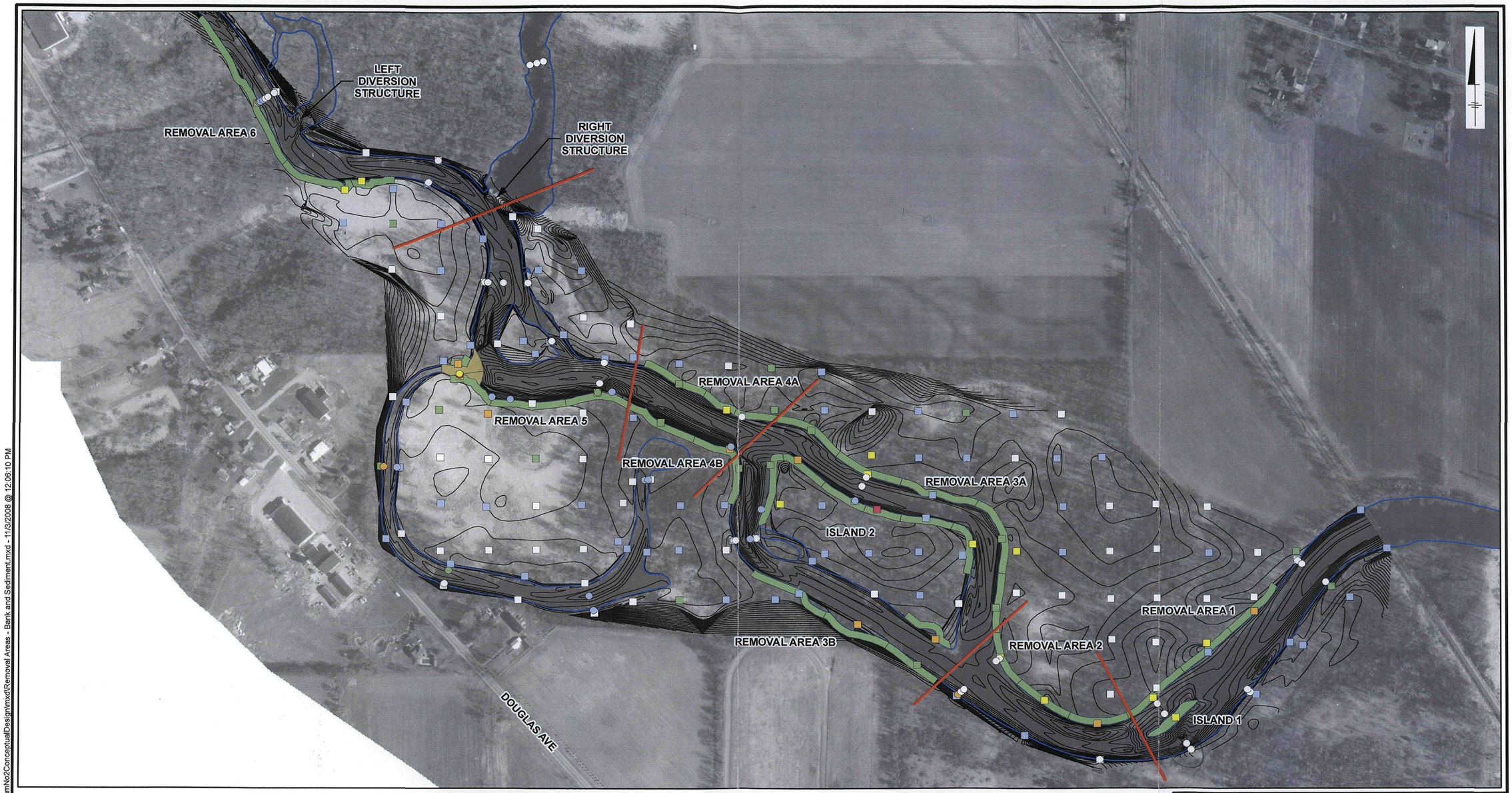
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

SEDIMENT PCB RESULTS BY DEPTH

ARCADIS

FIGURE 11

\\MI3FP1\Data\COMMON\64524\10 Final Reports and Presentations\2008 Plainwell No. 2 Dam CDR\Sediment Figures_110308.xls
9/26/2008
Project Number: B0065439.0000.00500



LEGEND:

SOIL SAMPLE LOCATION
MAXIMUM PCB RESULT (ppm):
- < 1
- 1 - 5
- 5 - 10
- 10 - 25
- 25 - 50
- > 50

SEDIMENT SAMPLE LOCATION
MAXIMUM PCB RESULT (ppm):
- < 1
- 1 - 5
- 5 - 10
- 10 - 25
- 25 - 50
- > 50

- TOPOGRAPHY/BATHYMETRY CONTOUR - 0.5 FT INTERVAL
- SHORELINE (APPROXIMATE)
- BANK REMOVAL AREA
- SEDIMENT REMOVAL AREA

0 400 800 Feet
GRAPHIC SCALE

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

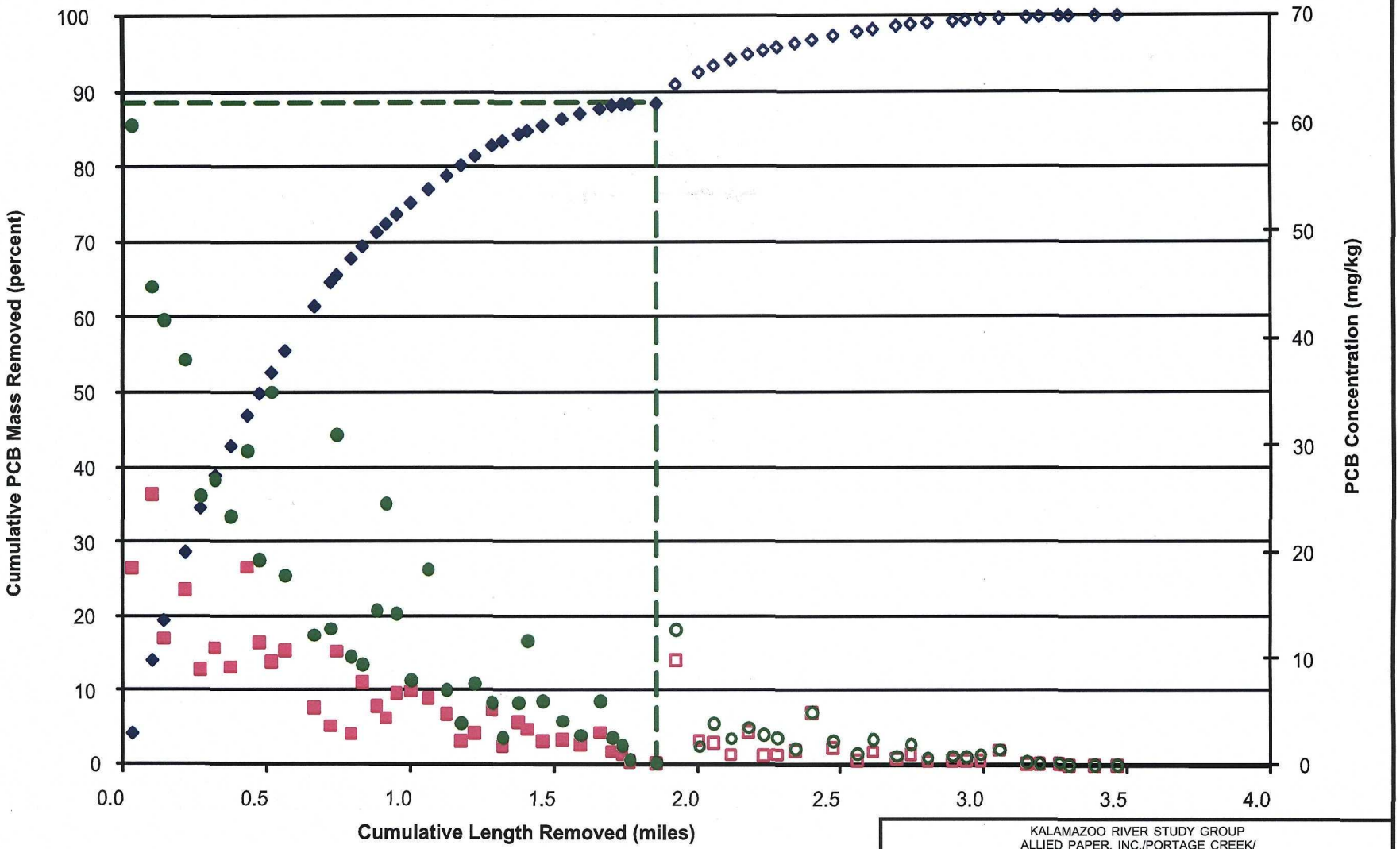
PLAINWELL NO. 2 DAM AREA TARGET REMOVAL AREAS

ARCADIS

FIGURE 12

SYR-90 MTK
KRSG (64539.00500)
Q:\KRSG\MorrowDam1ToPlainwellDam5\RI_Dam No2\ConceptualDesign\mxd\Removal Areas - Bank and Sediment.mxd - 11/3/2008 @ 12:06:10 PM

11/03/08 SYR-141ENV-KLS
B0064539/0000/00640/CDR/PCB/64539g04.CDR



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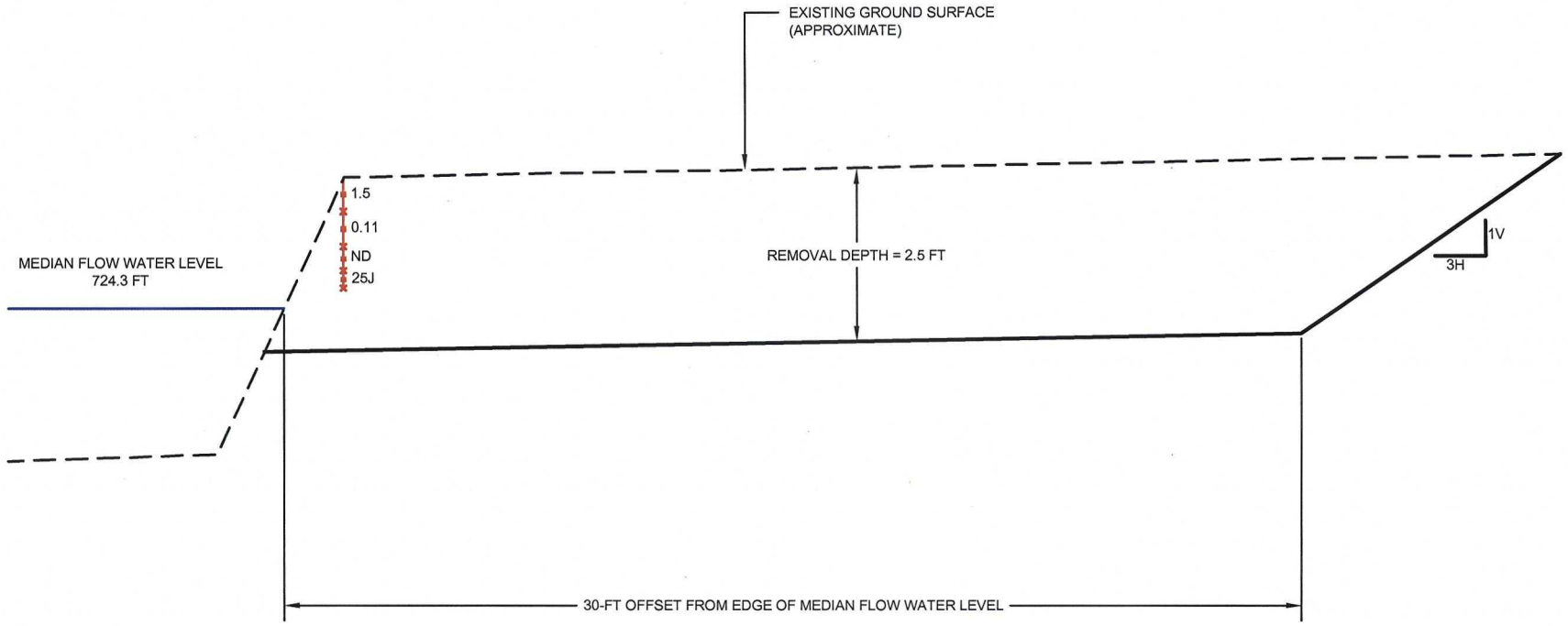
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

PROPOSED BANK SOIL PCB REMOVAL IN THE PLAINWELL NO. 2 DAM AREA

ARCADIS

FIGURE
13

CITY: SYRACUSE DIV/GROUP: 141/ENV DB: LJP LD:(Opt) PIC: M.PACZKOWSKI PM: M.ERICKSON TM: M.ERICKSON LYR:(Opt)ON=*;OFF=*REF*
G:\CAD\ACT\B0064539\0000\00640\DWG\CONCEPT\64539V01.DWG LAYOUT: 14ASAVED: 11/3/2008 9:30 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: C-LA-PDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/3/2008 10:52 AM BY: POSENAUER, LISA



LEGEND:

- CORE SAMPLE [5]
- CORE SAMPLE SEGMENT

NOTES:

1. VERTICAL SCALE EXAGGERATION = 2V:1H
2. CORE INDICATED ON SECTION AT ACTUAL LOCATION TAKEN IN THE FIELD.
3. TOTAL PCB DATA PRESENTED IN MG/KG
4. ND = NON-DETECT
5. CORE SAMPLE ELEVATION PRESENTED AS AVERAGE ELEVATION OF TOP AND BOTTOM SEGMENT DEPTH INTERVAL
6. ELEVATION DATUM IS NGVD 1929

0 2.5' 5'
VERTICAL SCALE

0 5' 10'
HORIZONTAL SCALE

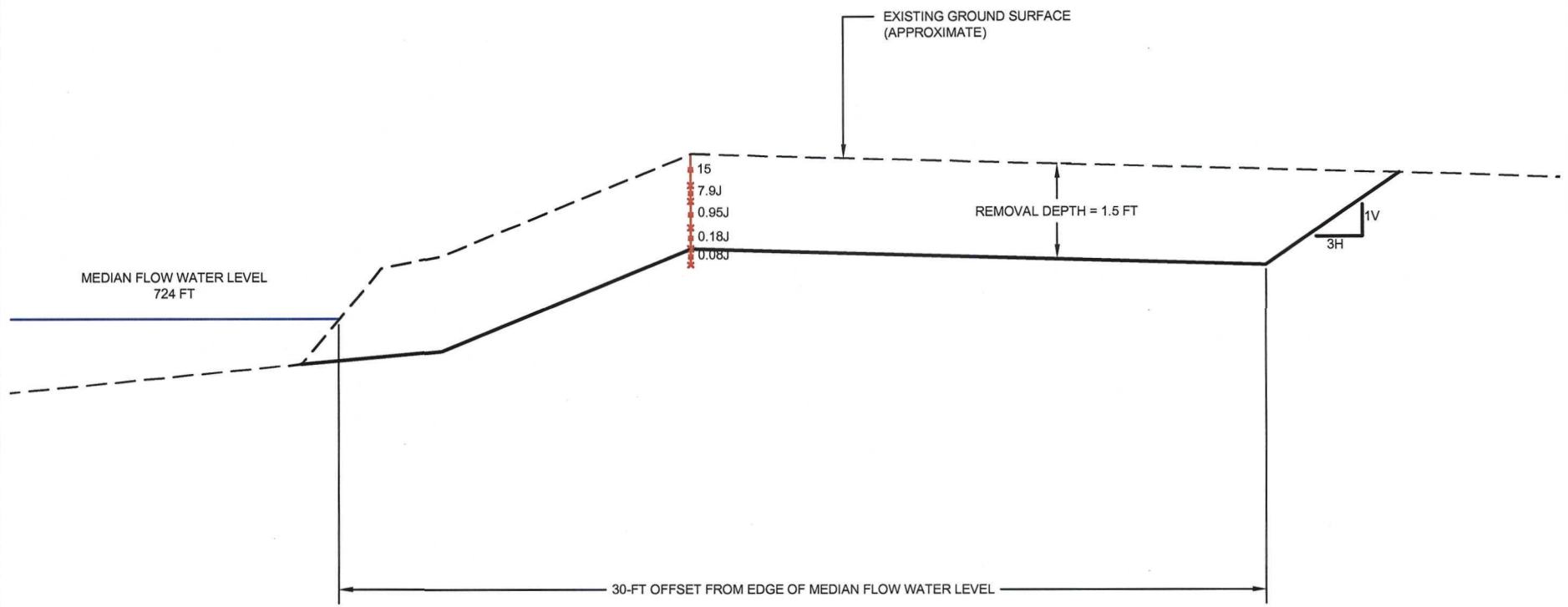
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CONCEPTUAL REMOVAL CROSS SECTION AT LOCATION P2BN-35

ARCADIS

FIGURE
14A

CITY: SYRACUSE DIV/GROUP: 141/ENV DB: LJP LD:(Opt) PIC: M.PACZKOWSKI PM: M.ERICKSON TM: M.ERICKSON LYR:(Opt)ON=*;OFF=*REF*
G:\CAD\ACT\B0064539\0000\00640\DWG\CONCEPT\64539V01.DWG LAYOUT: 14BSAVED: 11/3/2008 9:30 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: C-LA-PDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/3/2008 10:52 AM BY: POSENAUER, LISA



LEGEND:

- CORE SAMPLE [5]
- CORE SAMPLE SEGMENT

NOTES:

1. VERTICAL SCALE EXAGGERATION = 2V:1H
2. CORE INDICATED ON SECTION AT ACTUAL LOCATION TAKEN IN THE FIELD.
3. TOTAL PCB DATA PRESENTED IN MG/KG
4. ND = NON-DETECT
5. CORE SAMPLE ELEVATION PRESENTED AS AVERAGE ELEVATION OF TOP AND BOTTOM SEGMENT DEPTH INTERVAL
6. ELEVATION DATUM IS NGVD 1929

0 2.5' 5'
VERTICAL SCALE

0 5' 10'
HORIZONTAL SCALE

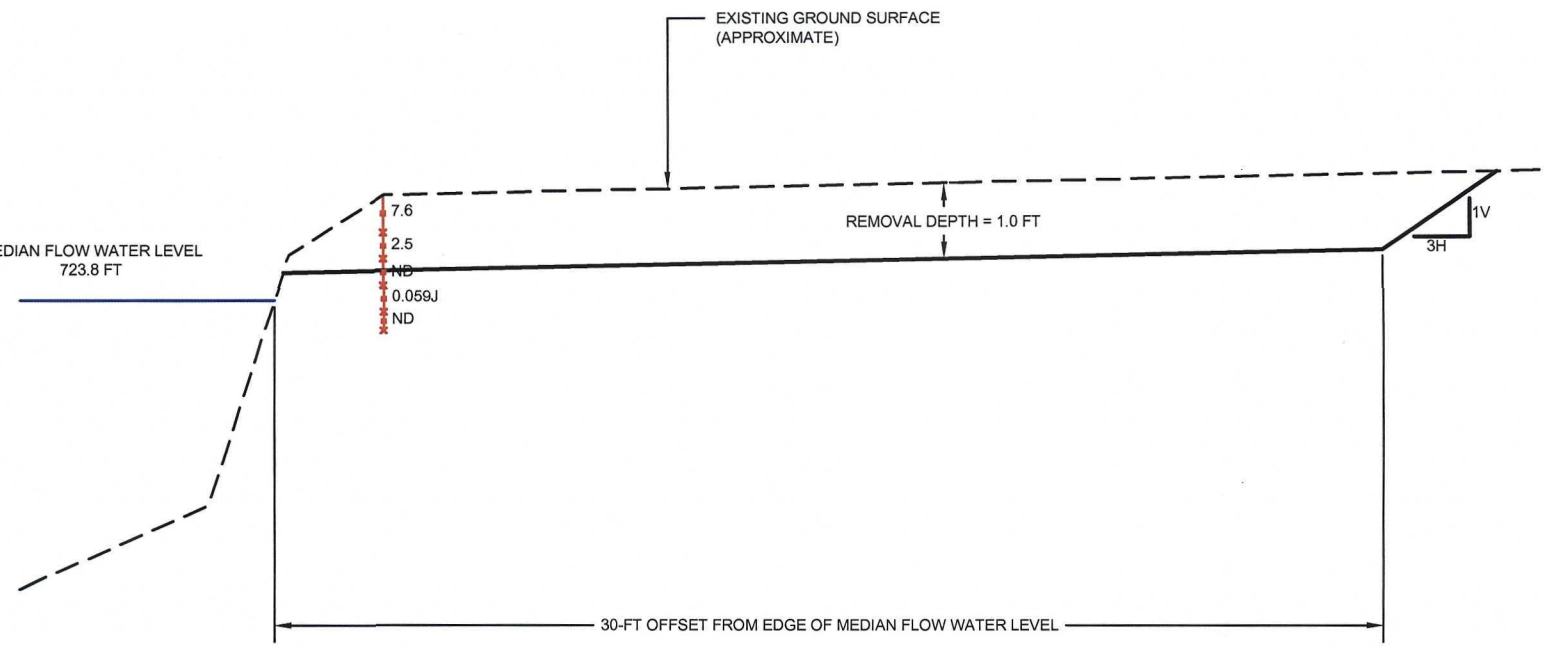
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CONCEPTUAL REMOVAL CROSS SECTION AT LOCATION P2BN-33

ARCADIS

FIGURE
14B

CITY: SYRACUSE DIV/GROUP: 141/ENV DB: LJP LD:(Opt) PIC: M.PACZKOWSKI PM: M.ERICKSON TM: M.ERICKSON LYR:(Opt)ON=*;OFF=*REF*
G:\CAD\ACT\B0064539\0000\00640\DWG\CONCEPT\64539V01.DWG LAYOUT: 14CSAVED: 11/3/2008 9:30 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: C-LA-PDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/3/2008 10:51 AM BY: POSENAUER, LISA



LEGEND:

- CORE SAMPLE [5]
- CORE SAMPLE SEGMENT

NOTES:

1. VERTICAL SCALE EXAGGERATION = 2V:1H
2. CORE INDICATED ON SECTION AT ACTUAL LOCATION TAKEN IN THE FIELD.
3. TOTAL PCB DATA PRESENTED IN MG/KG
4. ND = NON-DETECT
5. CORE SAMPLE ELEVATION PRESENTED AS AVERAGE ELEVATION OF TOP AND BOTTOM SEGMENT DEPTH INTERVAL
6. ELEVATION DATUM IS NGVD 1929

0 2.5' 5'
VERTICAL SCALE

0 5' 10'
HORIZONTAL SCALE

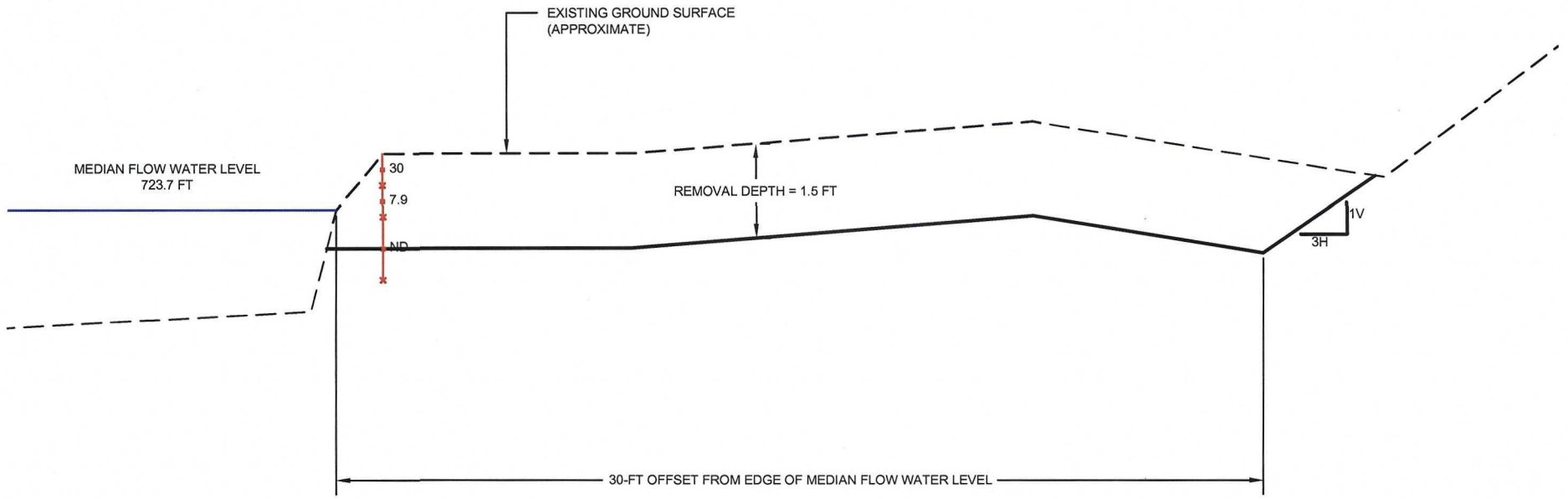
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CONCEPTUAL REMOVAL CROSS SECTION AT LOCATION P2BN-31

ARCADIS

FIGURE
14C

CITY: SYRACUSE DIV/GROUP: 141/ENV DB: LJP LD:(Opt) PIC: M.PACZKOWSKI PM: M.ERICKSON TM: M.ERICKSON LYR:(Opt)ON=*;OFF=*REF*
G:\CAD\ACT\B0064539\0000\00640\DWG\CONCEPT\64539V01.DWG LAYOUT: 14DSAVED: 11/3/2008 9:30 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: C-LA-PDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/3/2008 10:51 AM BY: POSENAUER, LISA



LEGEND:

- CORE SAMPLE [5]
- CORE SAMPLE SEGMENT

NOTES:

1. VERTICAL SCALE EXAGGERATION = 2V:1H
2. CORE INDICATED ON SECTION AT ACTUAL LOCATION TAKEN IN THE FIELD.
3. TOTAL PCB DATA PRESENTED IN MG/KG
4. ND = NON-DETECT
5. CORE SAMPLE ELEVATION PRESENTED AS AVERAGE ELEVATION OF TOP AND BOTTOM SEGMENT DEPTH INTERVAL
6. ELEVATION DATUM IS NGVD 1929

0 2.5' 5'
VERTICAL SCALE

0 5' 10'
HORIZONTAL SCALE

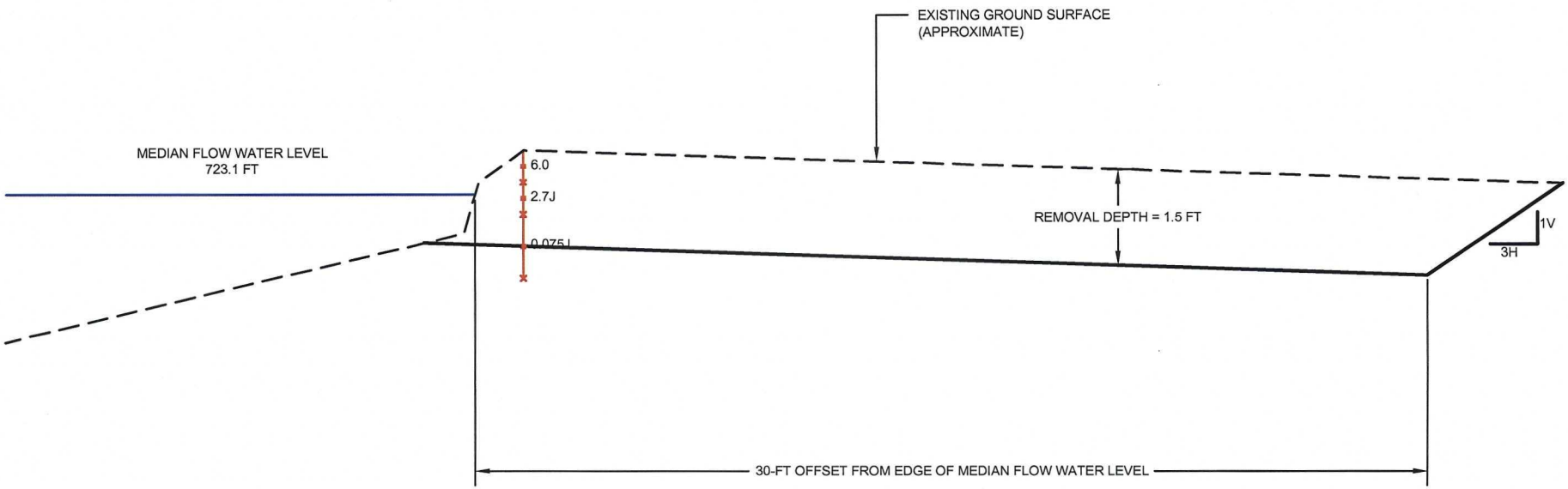
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CONCEPTUAL REMOVAL CROSS SECTION AT LOCATION P2BS-25

ARCADIS

FIGURE
14D

CITY: SYRACUSE DIV/GROUP: 141/ENV DB: LJP LD:(Opt) PIC: M.PACZKOWSKI PM: M.ERICKSON TM: M.ERICKSON LYR:(Opt)ON=*;OFF=*REF*
G:\CAD\ACT\B0064539\0000\00640\DWG\CONCEPT\64539V01.DWG LAYOUT: 14ESAVED: 11/3/2008 9:30 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: C-LA-PDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/3/2008 10:51 AM BY: POSENAUER, LISA



LEGEND:

- CORE SAMPLE [5]
- CORE SAMPLE SEGMENT

NOTES:

1. VERTICAL SCALE EXAGGERATION = 2V:1H
2. CORE INDICATED ON SECTION AT ACTUAL LOCATION TAKEN IN THE FIELD.
3. TOTAL PCB DATA PRESENTED IN MG/KG
4. ND = NON-DETECT
5. CORE SAMPLE ELEVATION PRESENTED AS AVERAGE ELEVATION OF TOP AND BOTTOM SEGMENT DEPTH INTERVAL
6. ELEVATION DATUM IS NGVD 1929

0 2.5' 5'
VERTICAL SCALE

0 5' 10'
HORIZONTAL SCALE

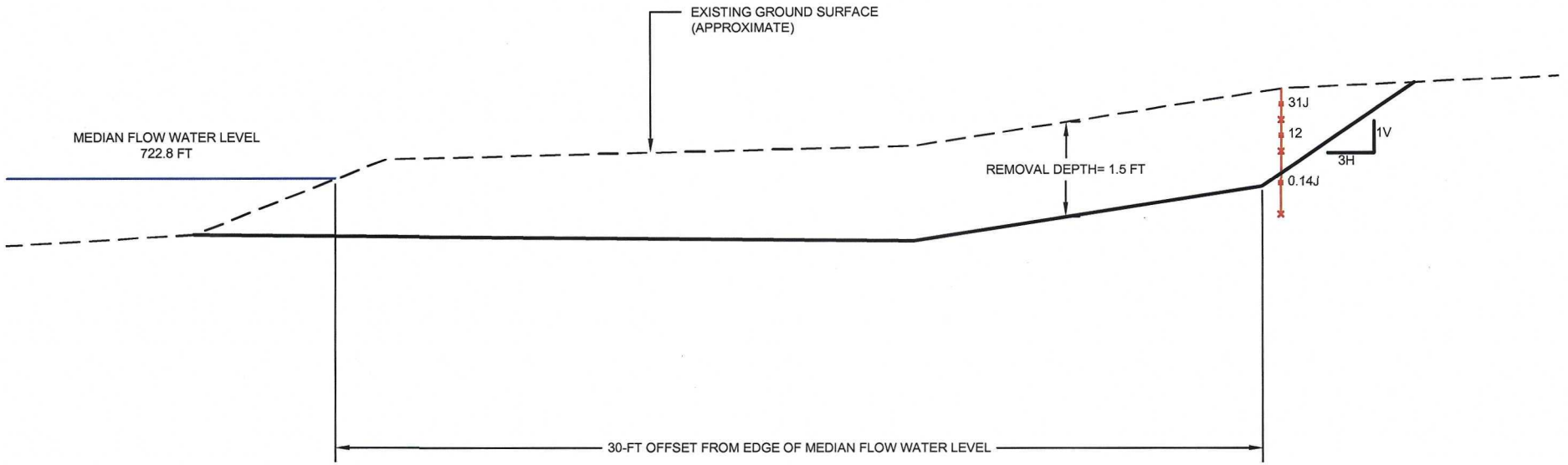
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CONCEPTUAL REMOVAL CROSS SECTION AT LOCATION P2BN-20

ARCADIS

FIGURE
14E

CITY: SYRACUSE DIV/GROUP: 141/ENV DB: LJP LD:(Opt) PIC: M.PACZKOWSKI PM: M.ERICKSON TM: M.ERICKSON LYR:(Opt)ON=*;OFF=*REF*
G:\CAD\ACT\B0064539\0000\00640\DWG\CONCEPT\64539V01.DWG LAYOUT: 14FSAVED: 11/3/2008 9:30 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: C-LA-PDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 11/3/2008 10:51 AM BY: POSENAUER, LISA



LEGEND:

- CORE SAMPLE [5]
- CORE SAMPLE SEGMENT

NOTES:

1. VERTICAL SCALE EXAGGERATION = 2V:1H
2. CORE INDICATED ON SECTION AT ACTUAL LOCATION TAKEN IN THE FIELD.
3. TOTAL PCB DATA PRESENTED IN MG/KG
4. ND = NON-DETECT
5. CORE SAMPLE ELEVATION PRESENTED AS AVERAGE ELEVATION OF TOP AND BOTTOM SEGMENT DEPTH INTERVAL
6. ELEVATION DATUM IS NGVD 1929

0 2.5' 5'
VERTICAL SCALE

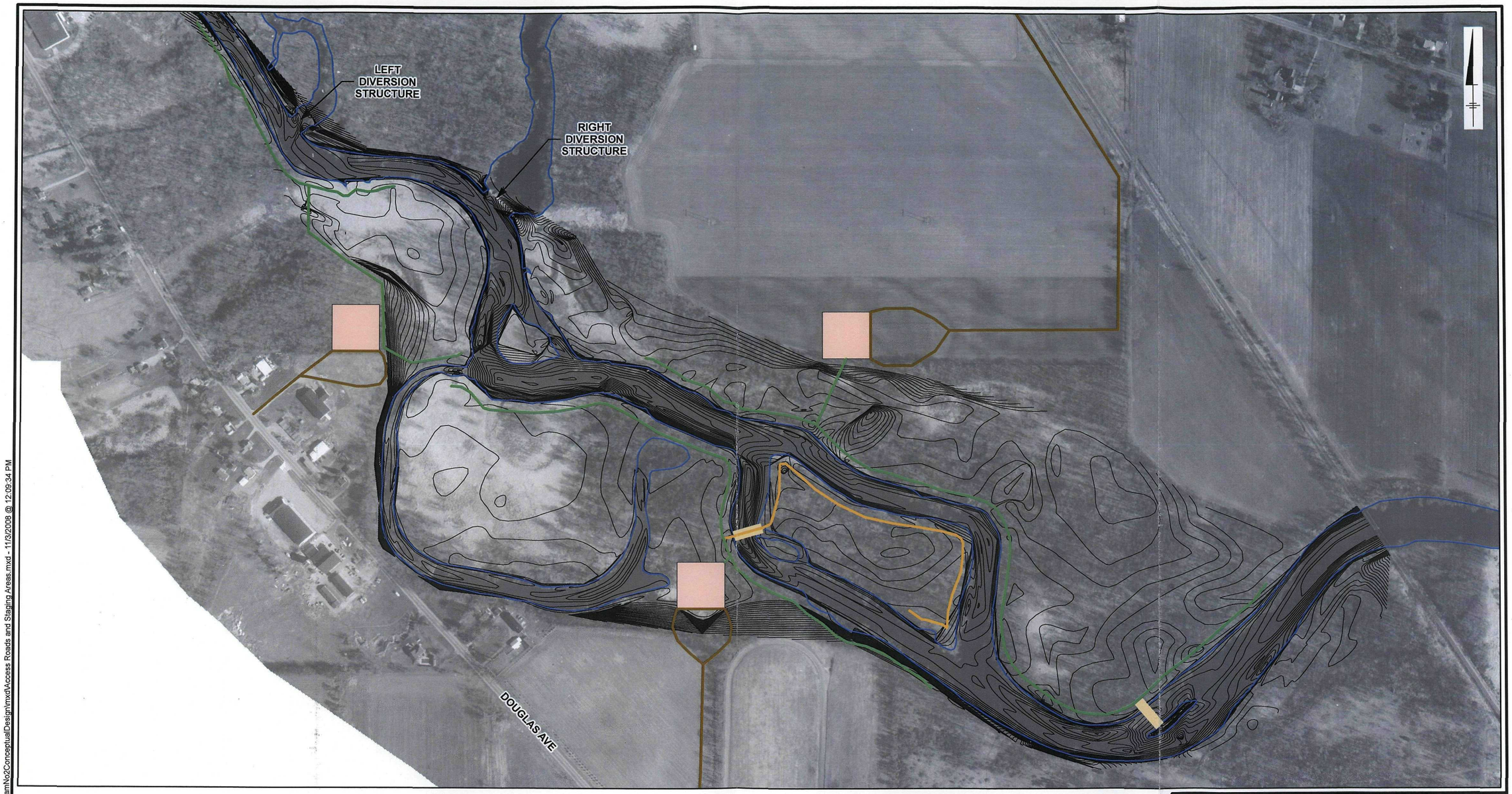
0 5' 10'
HORIZONTAL SCALE

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CONCEPTUAL REMOVAL CROSS SECTION AT LOCATION P2BN-10

ARCADIS

FIGURE
14F



LEGEND:

- POTENTIAL TEMPORARY BRIDGE
- POTENTIAL STAGING AREA
- LIGHT DUTY EQUIPMENT HAUL ROAD
- HEAVY EQUIPMENT HAUL ROAD
- GRAVEL TRAIN HAUL ROAD
- TOPOGRAPHY/BATHYMETRY CONTOUR - 0.5 FT INTERVAL
- SHORELINE (APPROXIMATE)

0 400 800 Feet

GRAPHIC SCALE

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

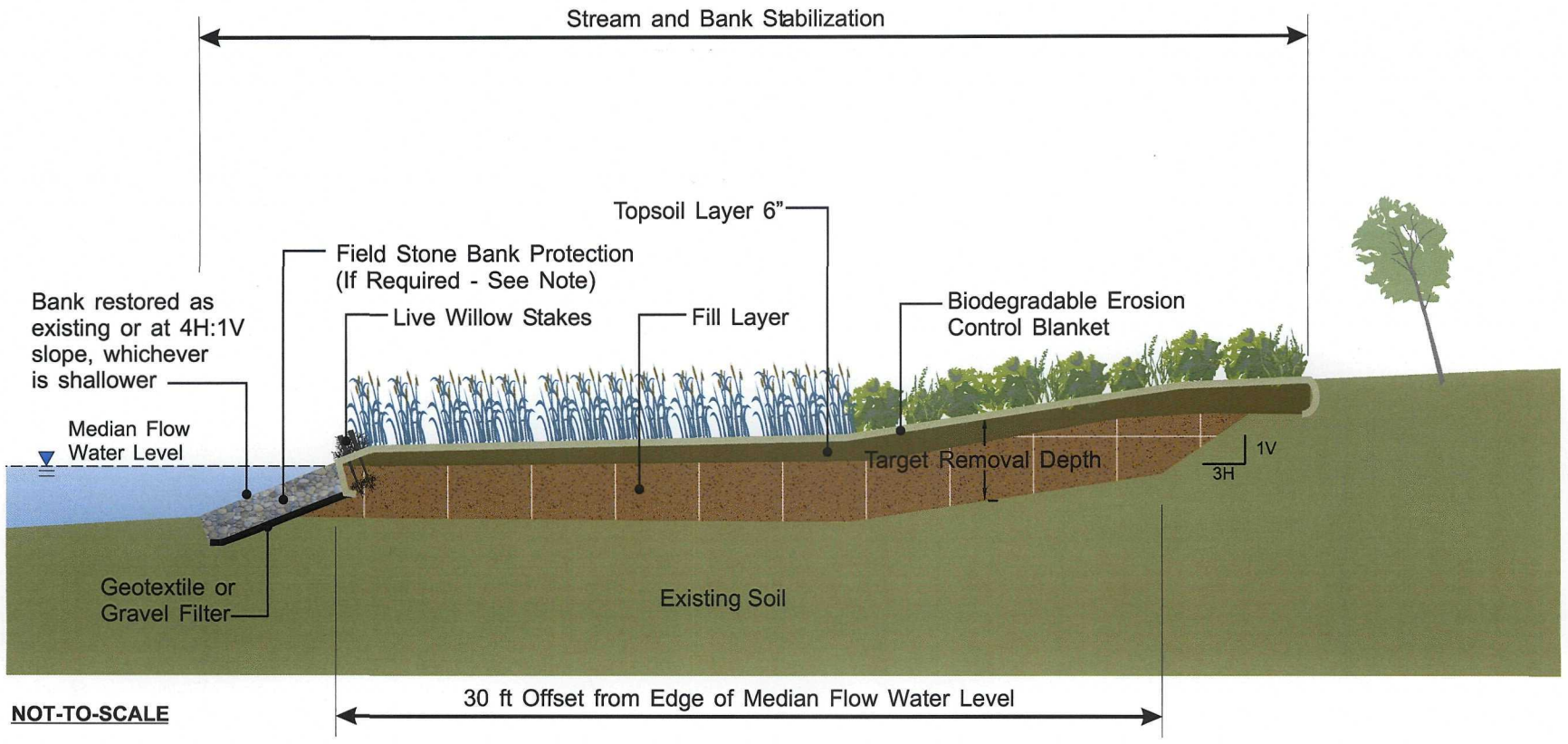
PLAINWELL NO. 2 DAM AREA ACCESS ROADS AND STAGING AREAS

ARCADIS

FIGURE 15

SYR-90 MTK
KRSG (64539.00500)
Q:\KRSG\MorrowDamToPlainwellDamISRI_DamNo2ConceptualDesign\mxd\Access Roads and Staging Areas.mxd - 11/3/2008 @ 12:09:34 PM

11/03/08 SYR-141ENV-DJH
B0064539/0000/00640/CDR/64539g01.CDR



NOT-TO-SCALE

NOTE:
Field Stone Bank Protection will be installed in higher erosion potential areas as required.

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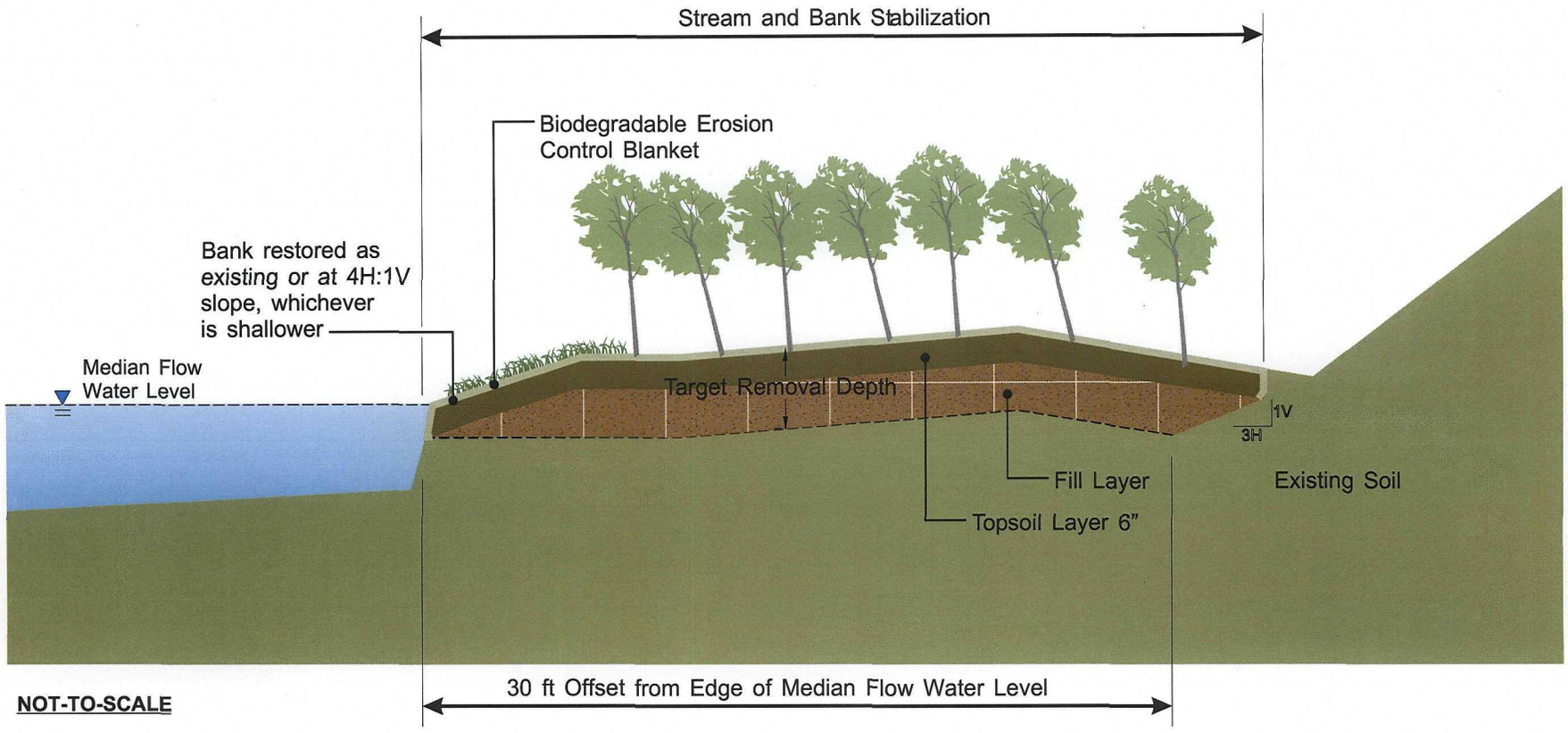
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CONCEPTUAL CROSS SECTION EMERGENT WETLAND BANK

ARCADIS

FIGURE
16A

10/31/08 SYR-141ENV-DJH
B0064539/0000/00640/CDR/64539g02.CDR



NOT-TO-SCALE

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CONCEPTUAL CROSS SECTION FLOODPLAIN FOREST

ARCADIS

FIGURE
16B

ARCADIS

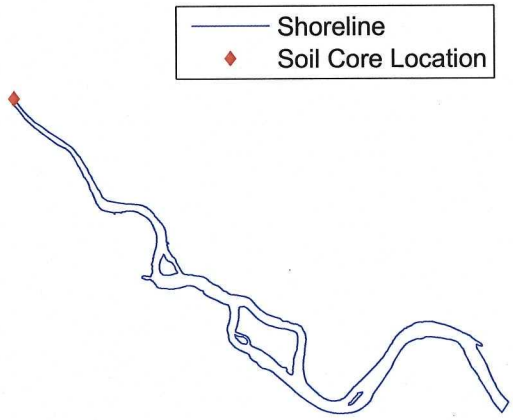
Appendix A

Combined Existing Bank Profiles and PCB Data Plots

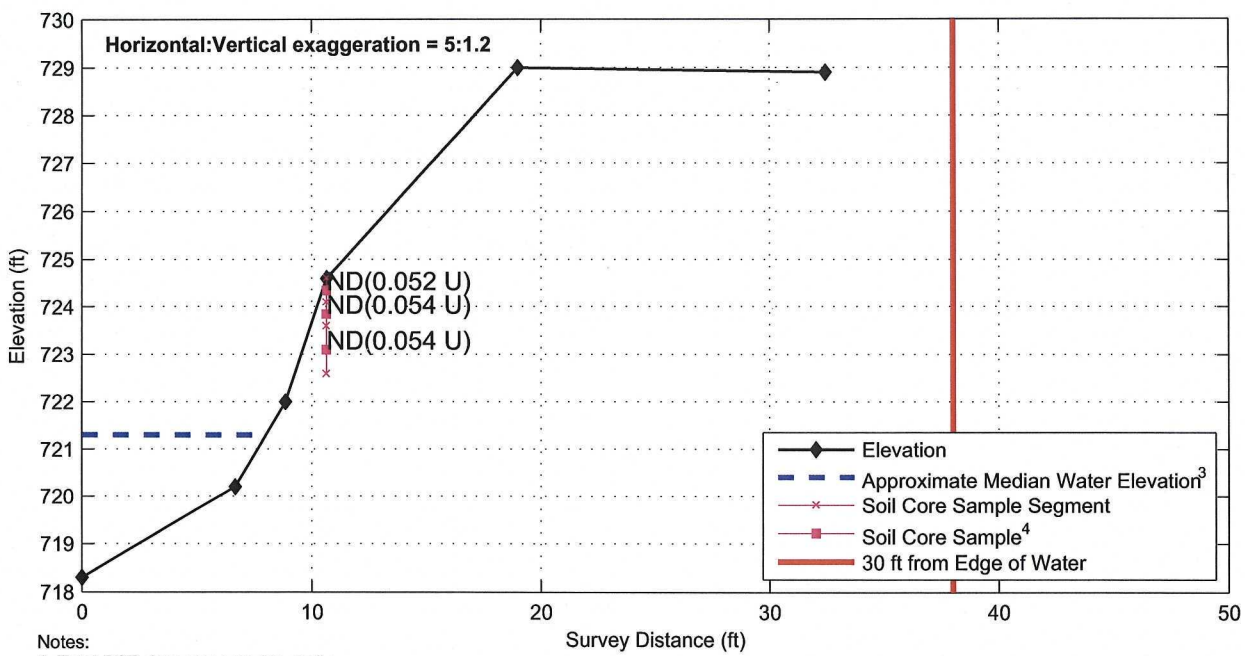
Design Area Transects

Plainwell No. 2 Bank Profiles
Transect: P2BN-01

Site Map



Bank Photograph

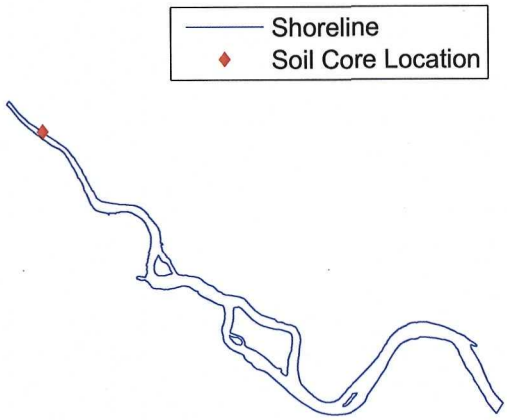


Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

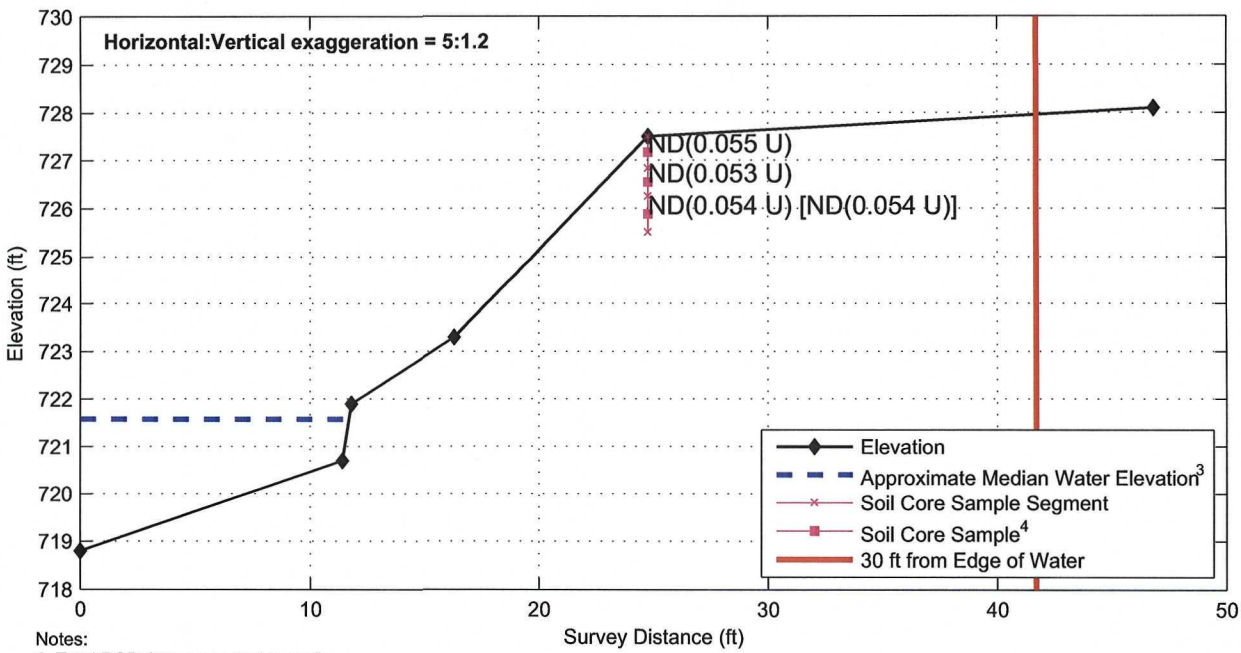
B0064539.0000.00500
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-02

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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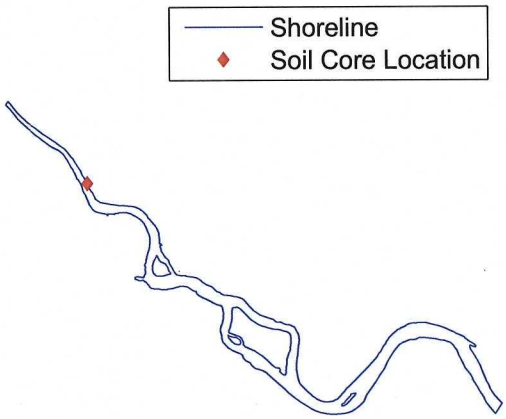
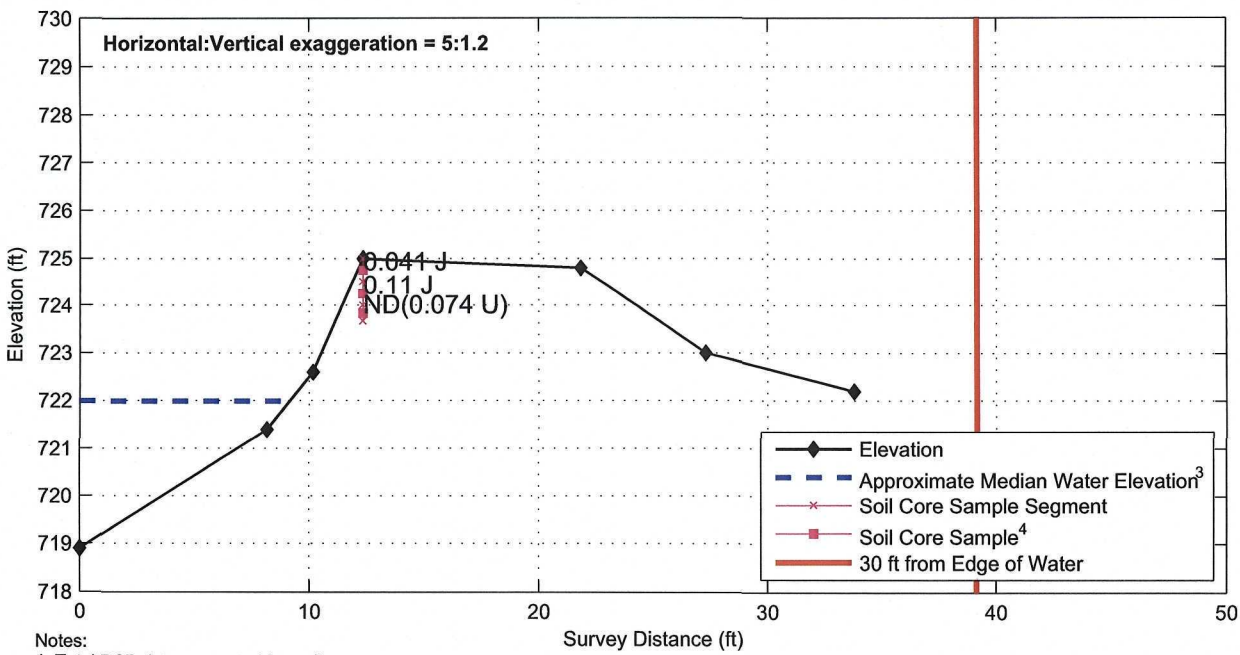
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-03

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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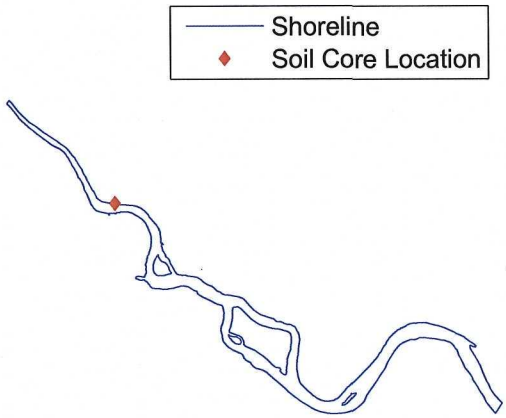
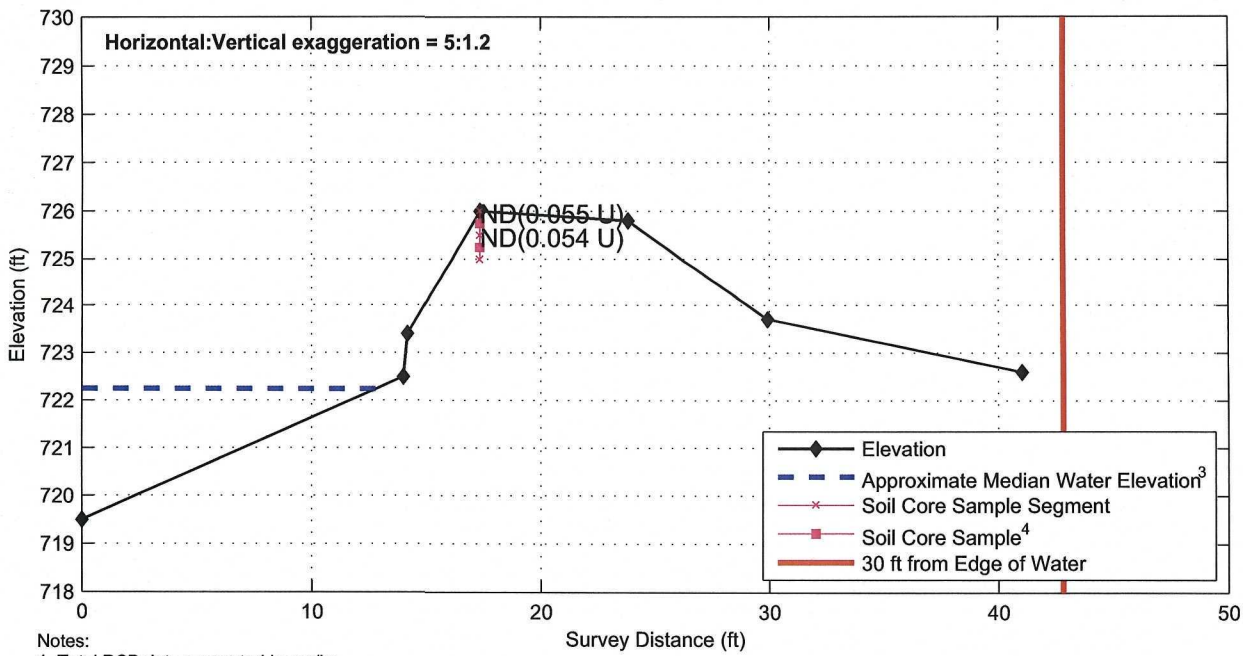
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-04

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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10/30/2008
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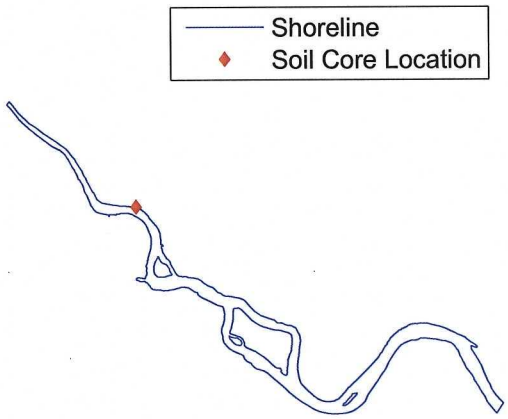
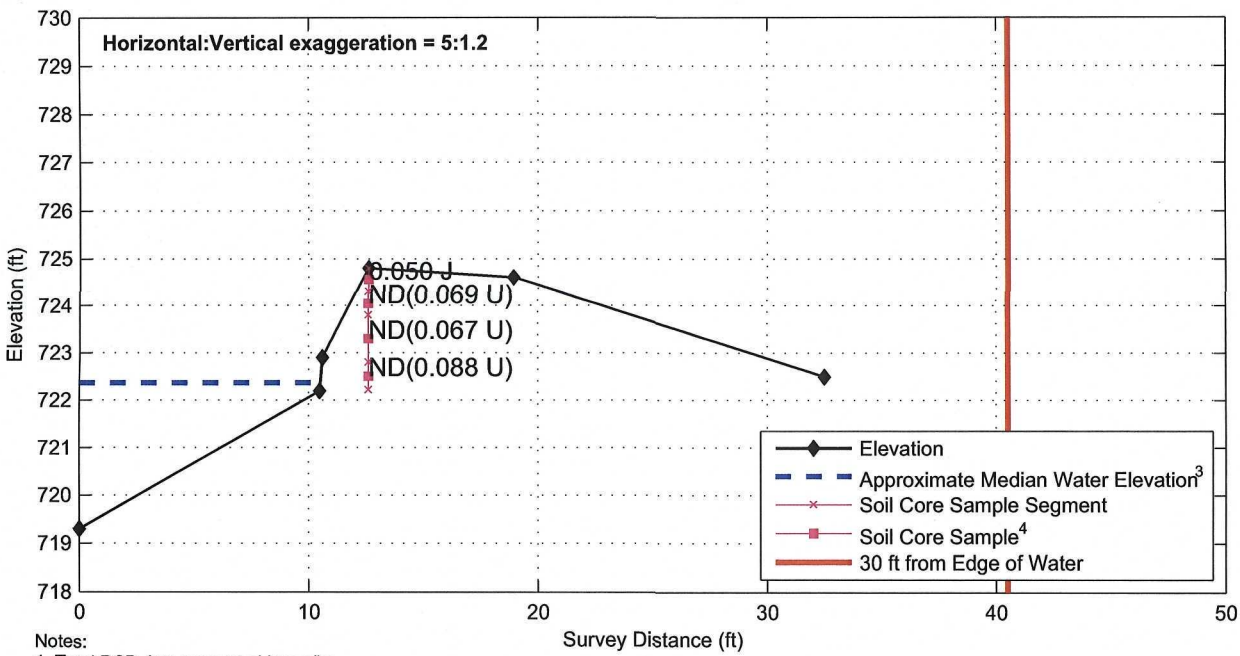
Plainwell No. 2 Bank Profiles
Transect: P2BN-05

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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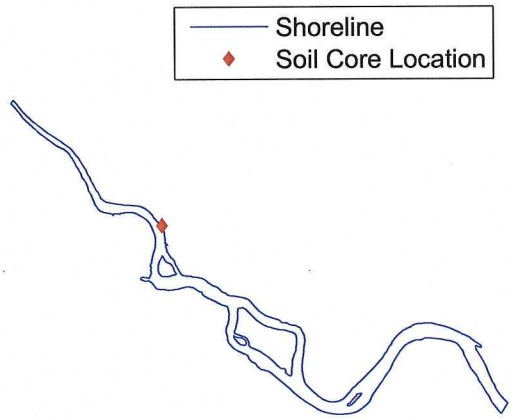
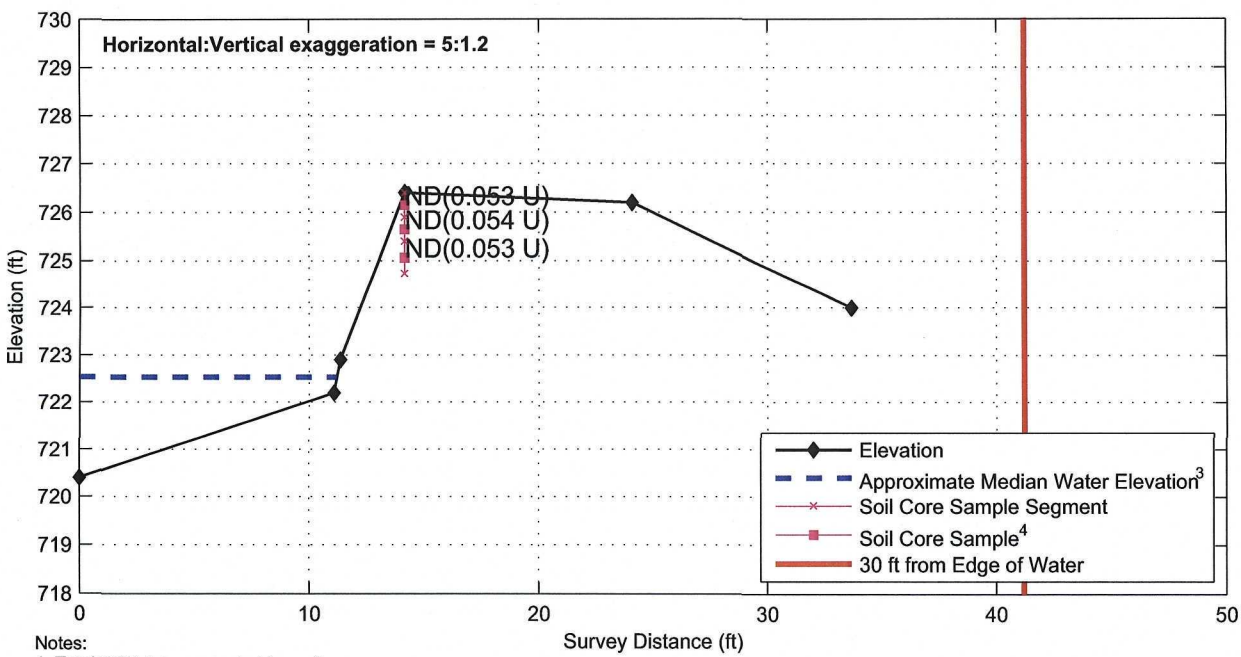
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-06

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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10/30/2008
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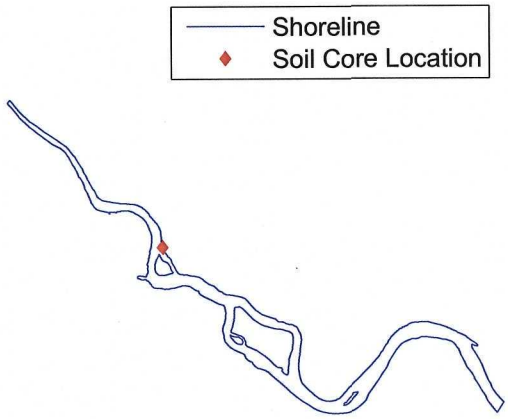
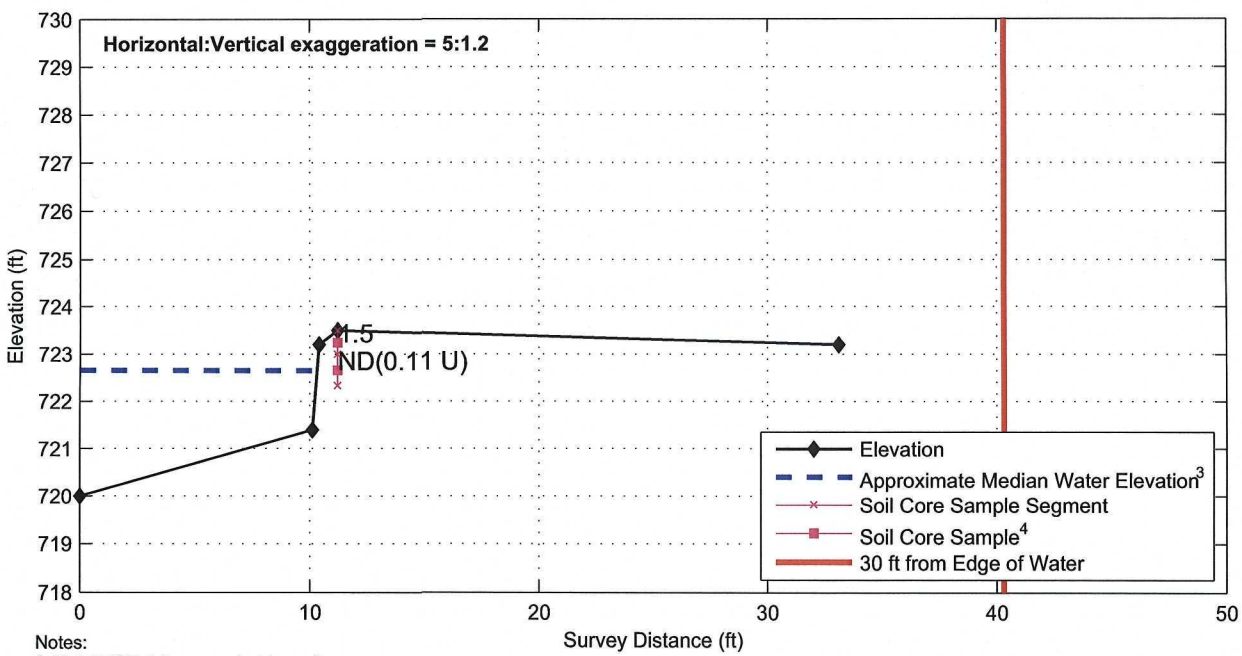
Plainwell No. 2 Bank Profiles
Transect: P2BN-07

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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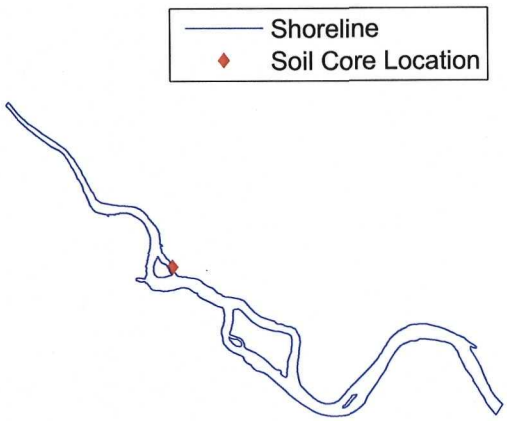
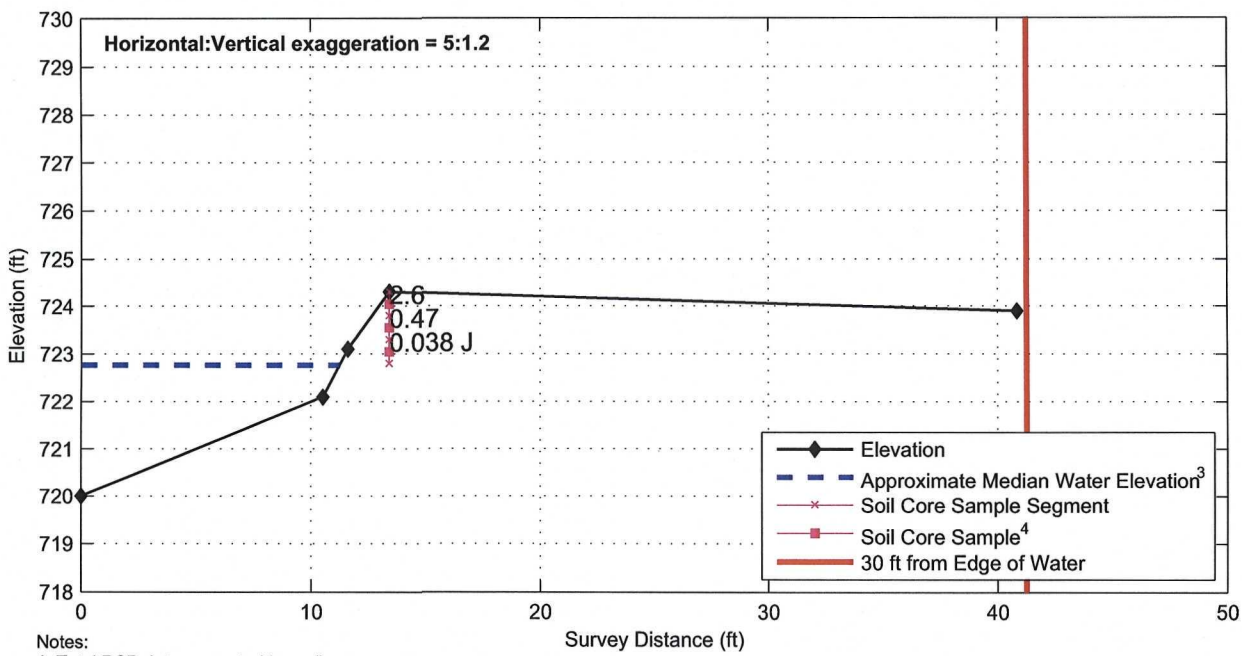
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-08

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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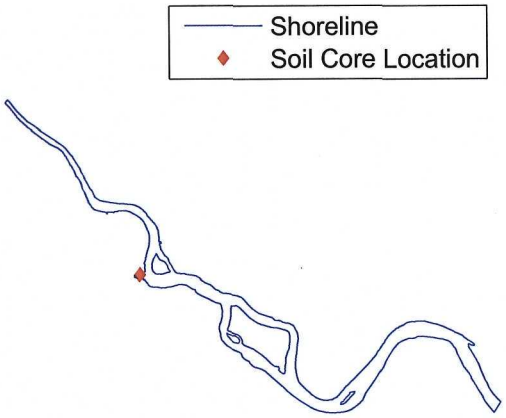
10/30/2008
Created by: JDO

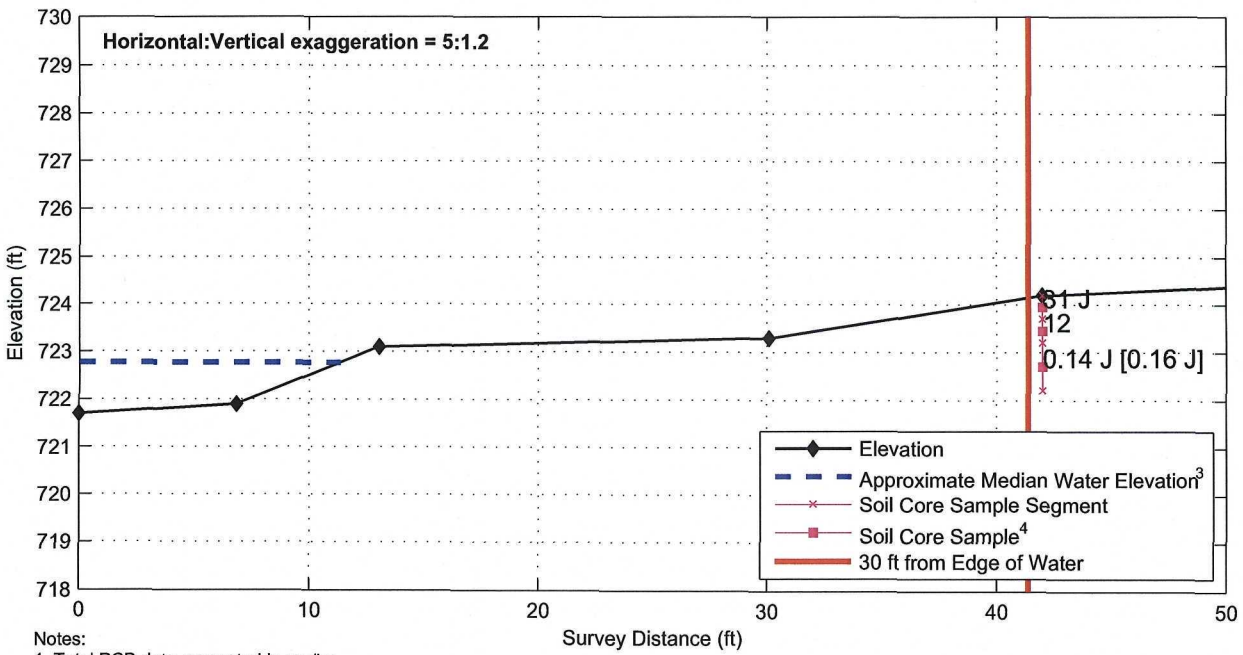
Plainwell No. 2 Bank Profiles
Transect: P2BN-10

Site Map



Bank Photograph

No Photo Available



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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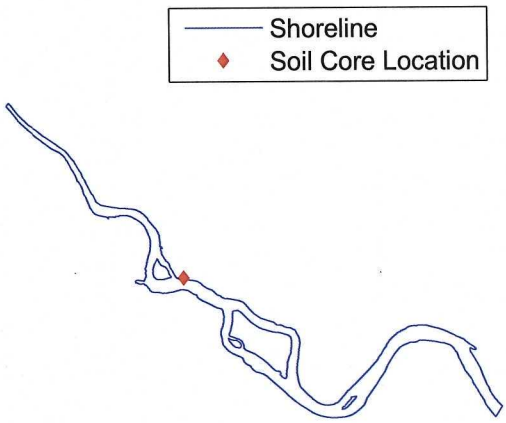
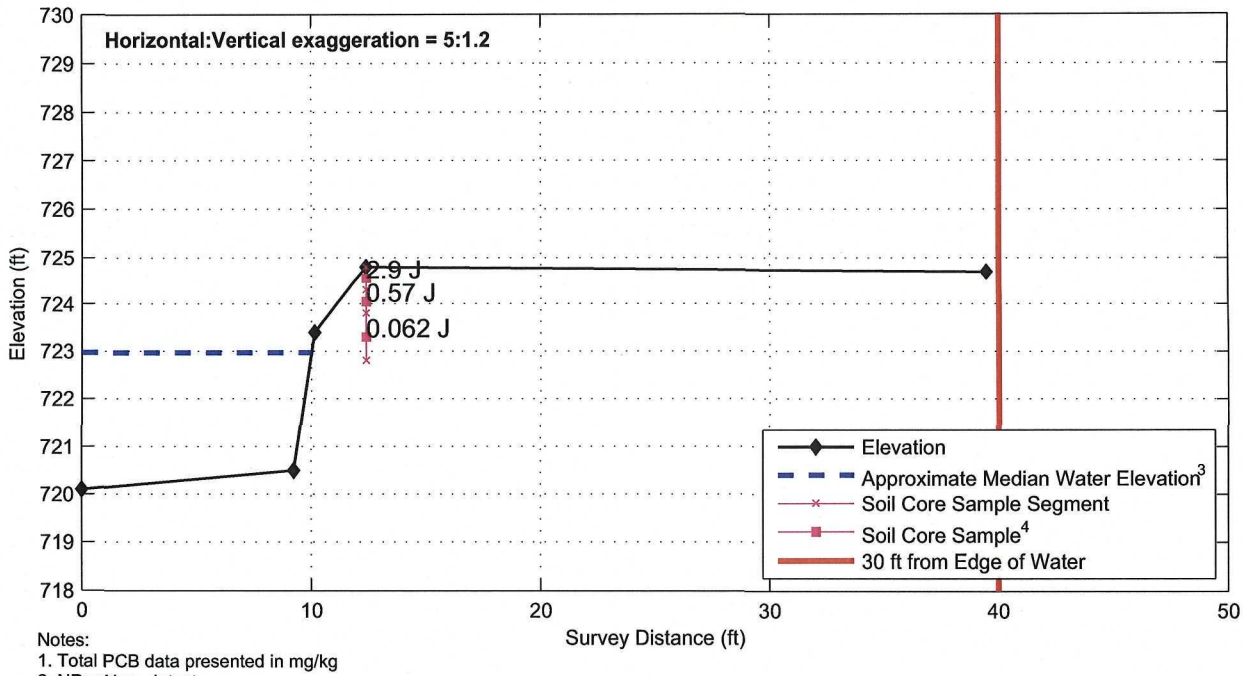
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-19

Site Map



Bank Photograph

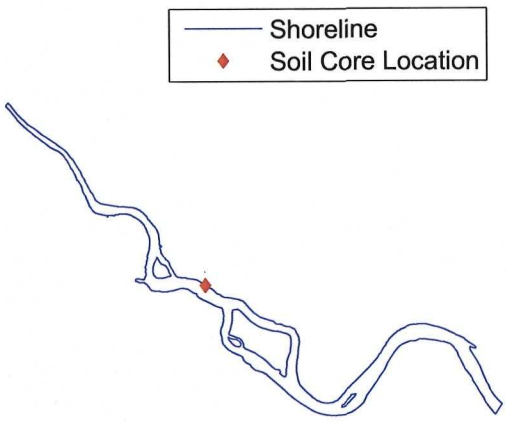


Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

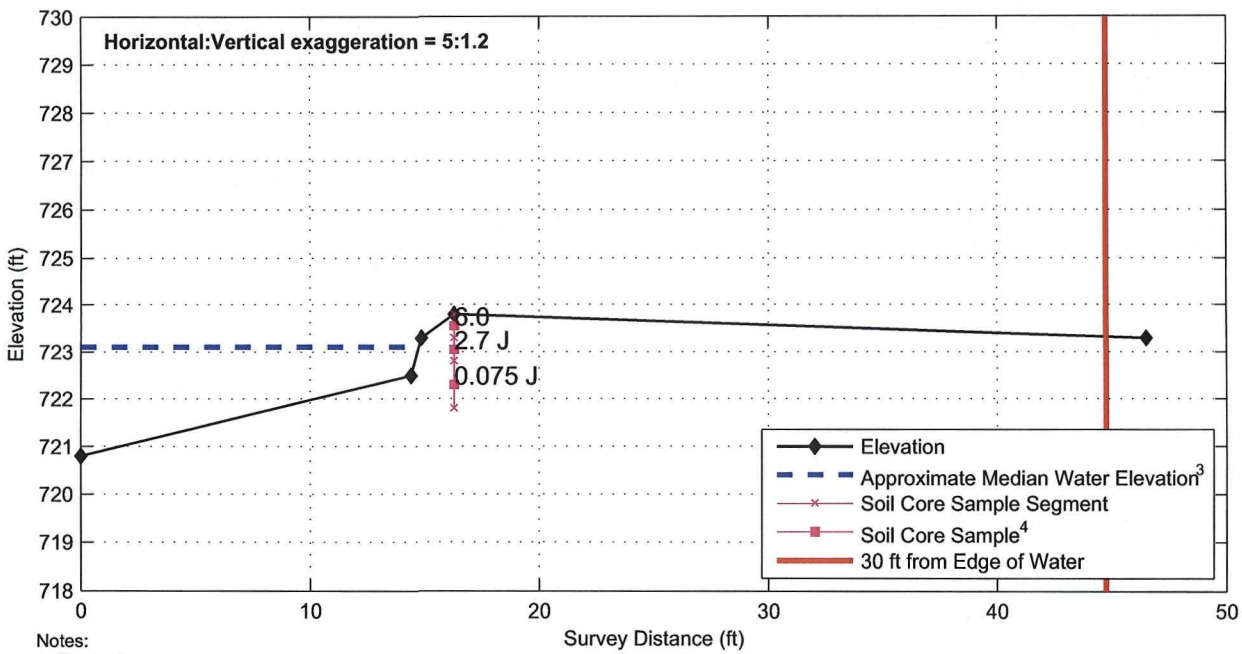
B0064539.0000.00500
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-20

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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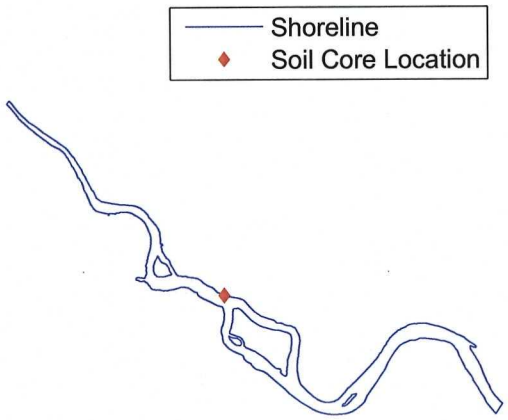
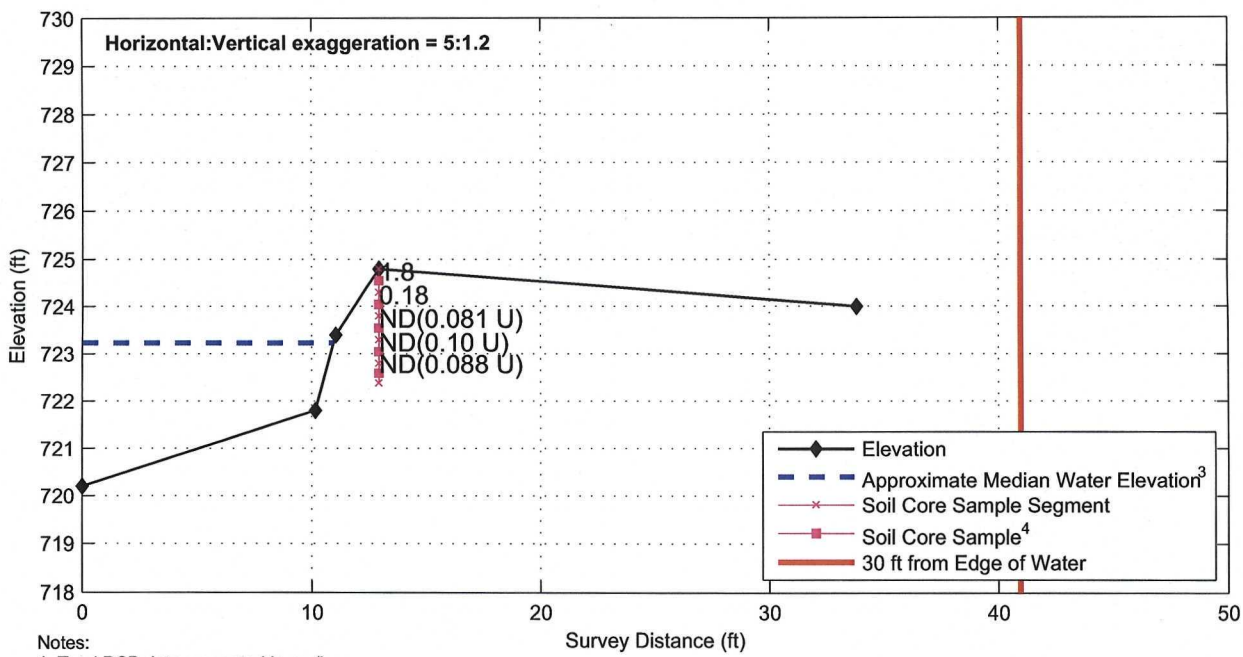
Plainwell No. 2 Bank Profiles
Transect: P2BN-21

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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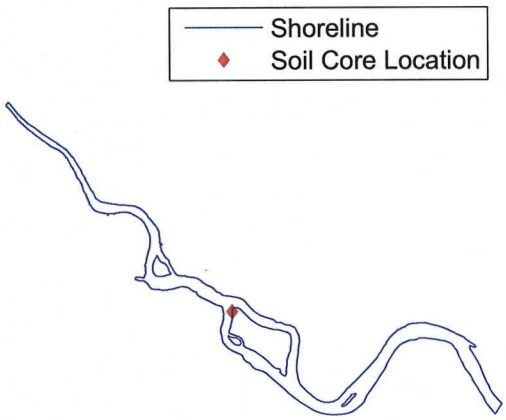
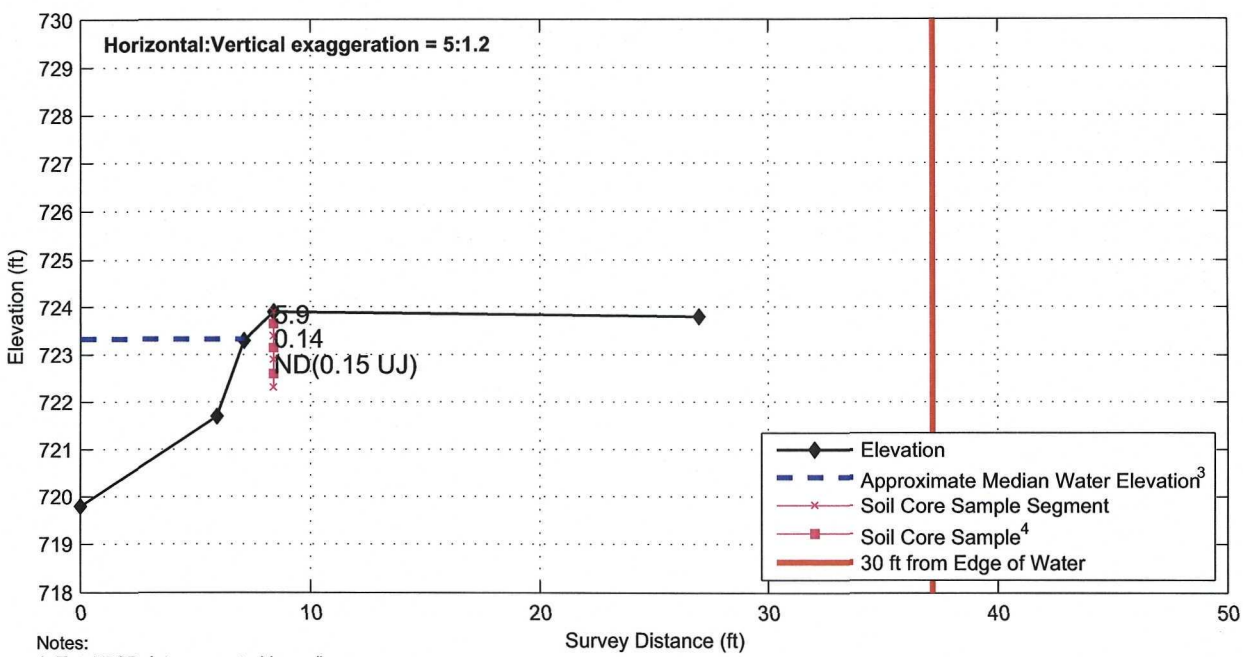
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-22

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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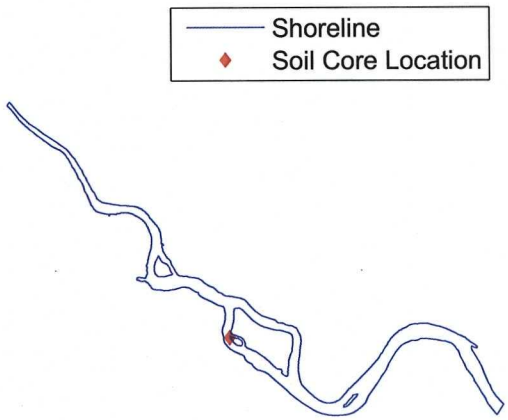
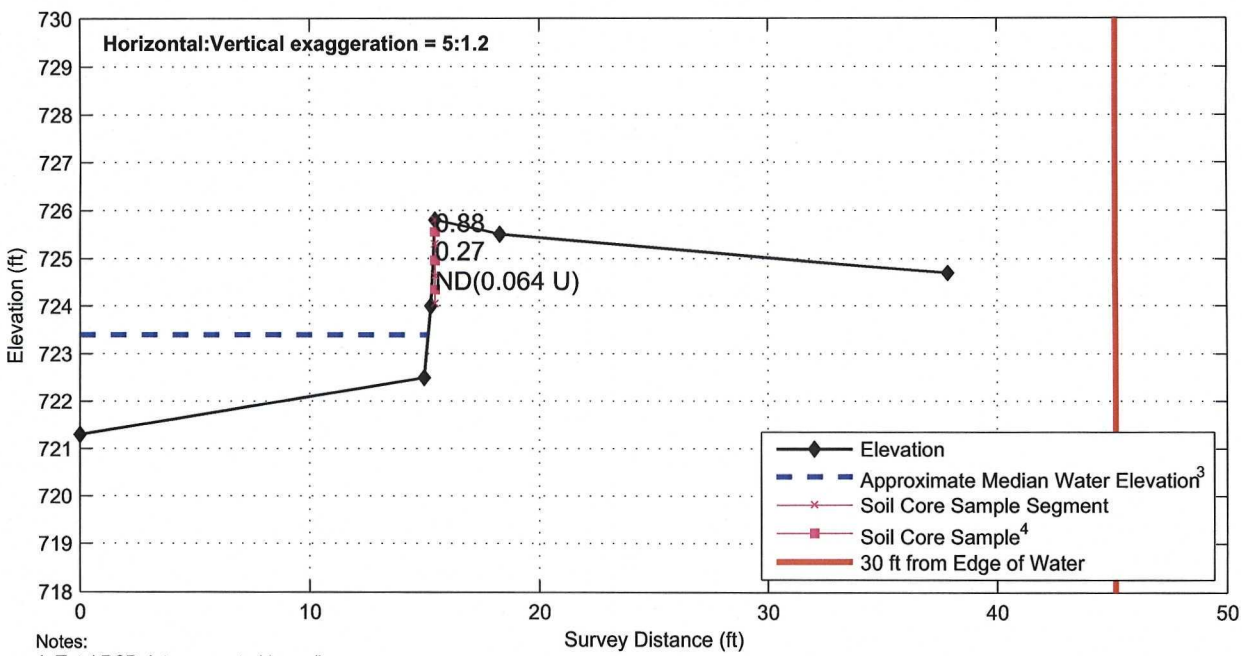
Plainwell No. 2 Bank Profiles
Transect: P2BN-23

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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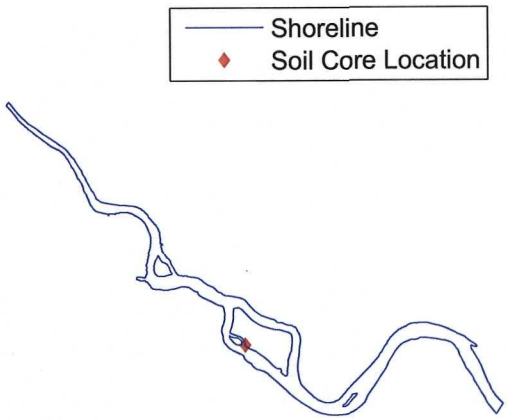
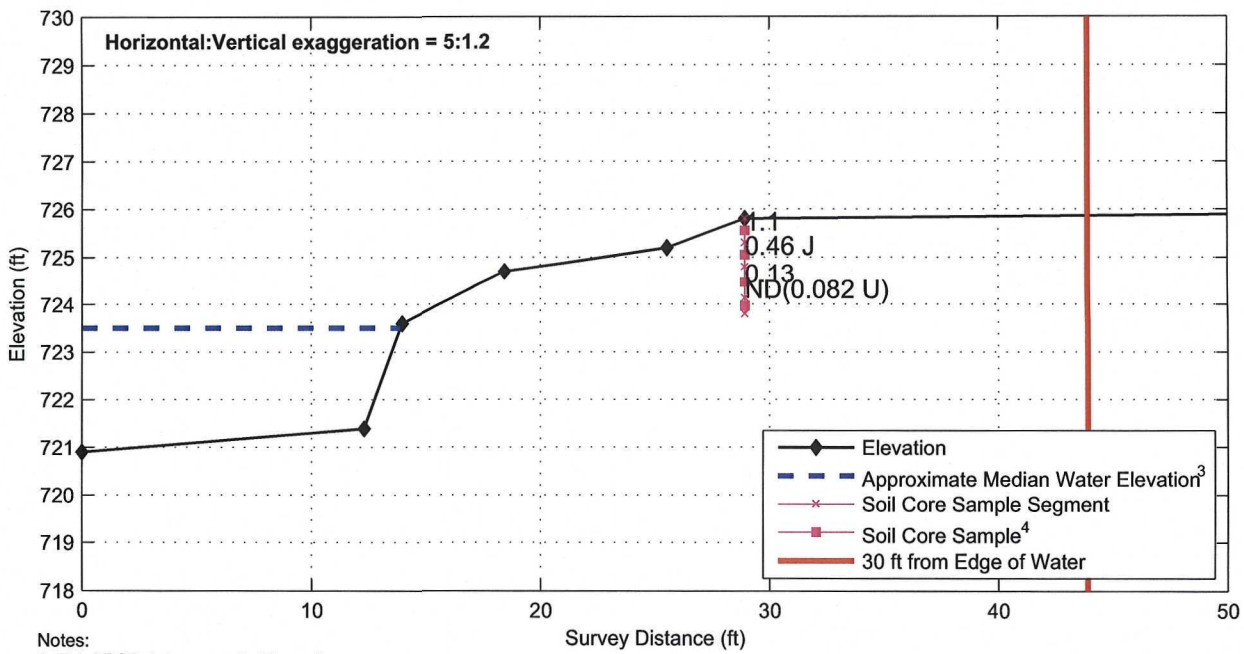
Plainwell No. 2 Bank Profiles
Transect: P2BN-24

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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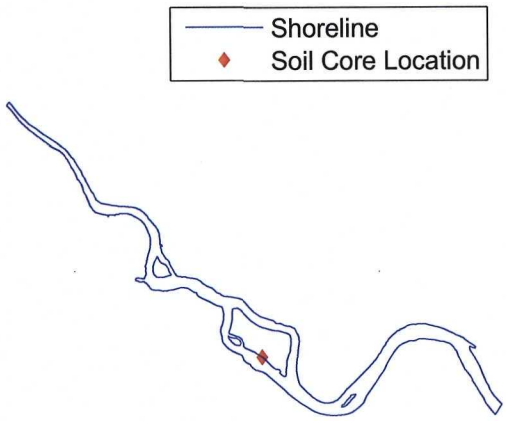
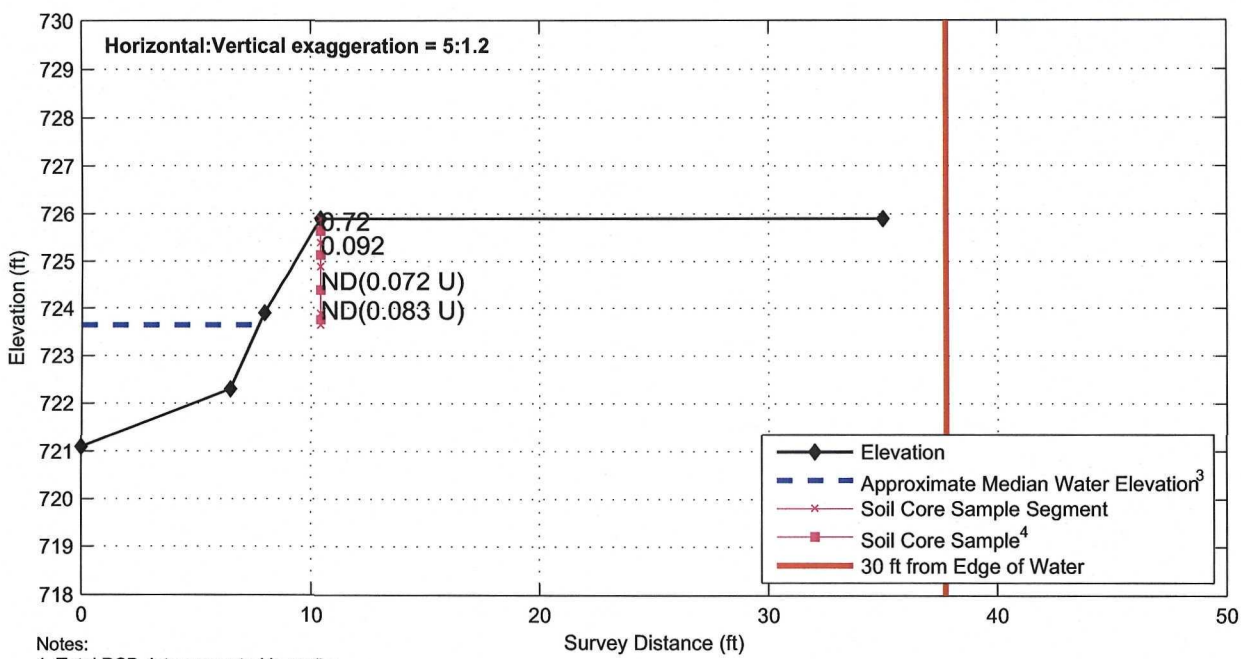
Plainwell No. 2 Bank Profiles
Transect: P2BN-25

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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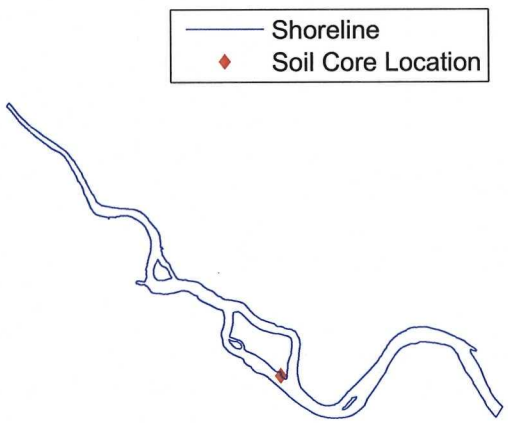
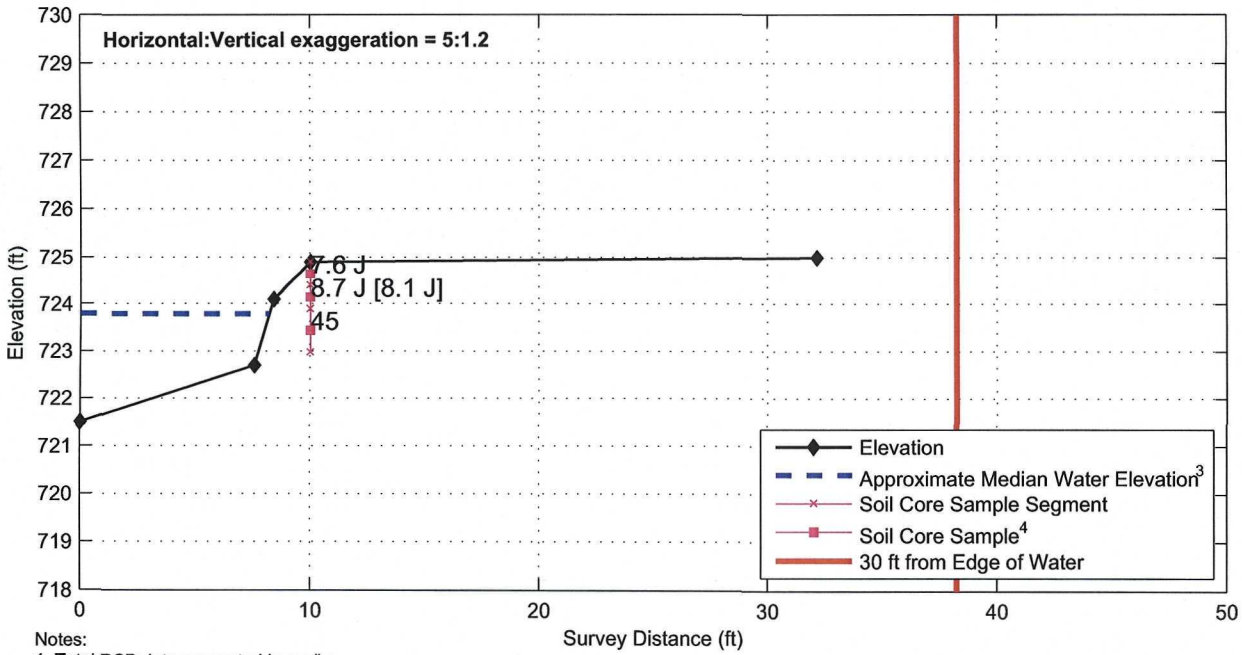
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-26

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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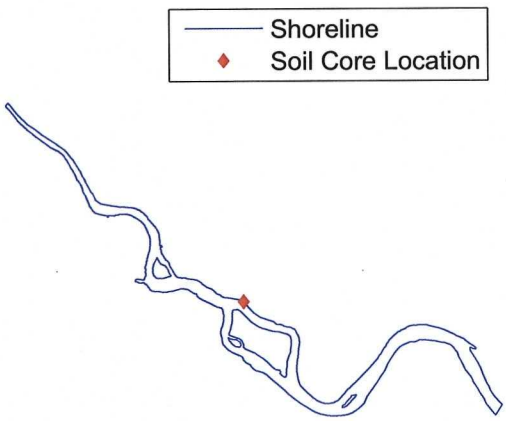
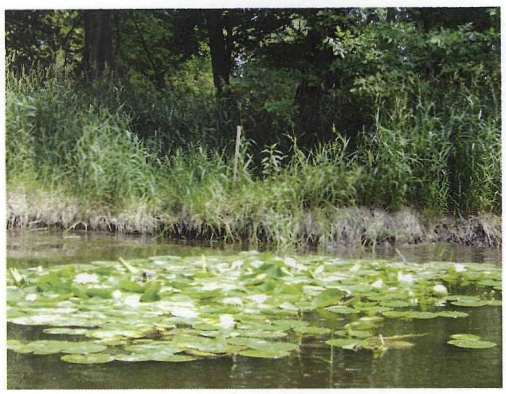
Created by: JDO

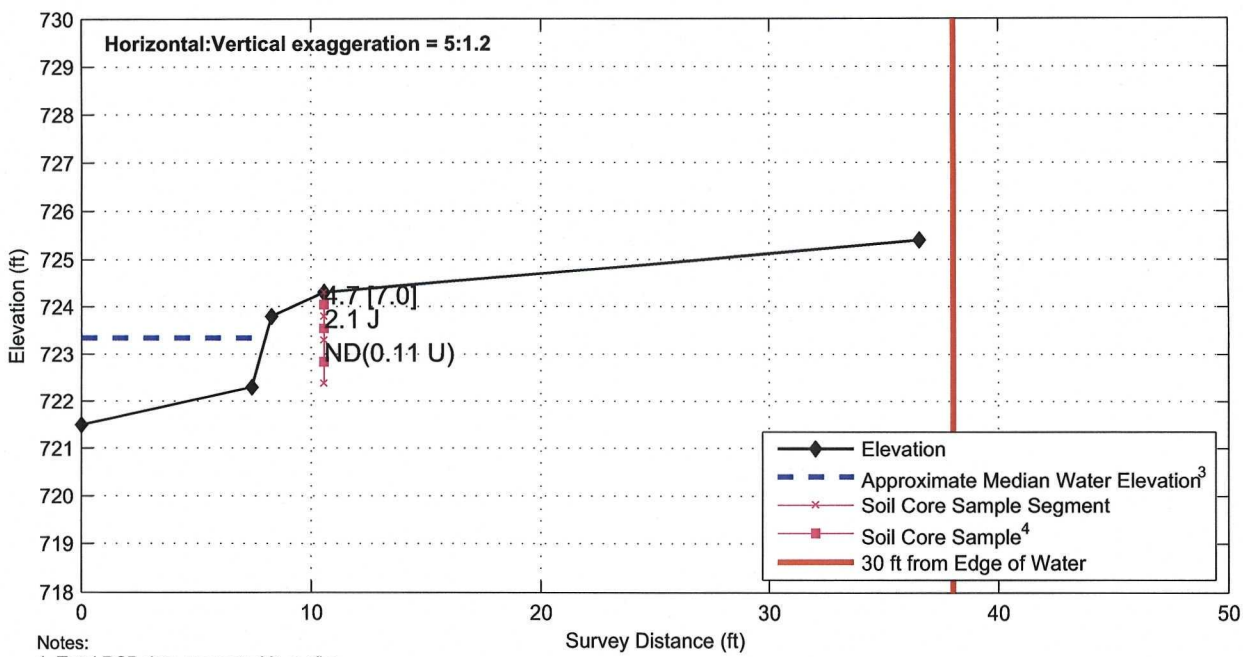
Plainwell No. 2 Bank Profiles
Transect: P2BN-27

Site Map



Bank Photograph





Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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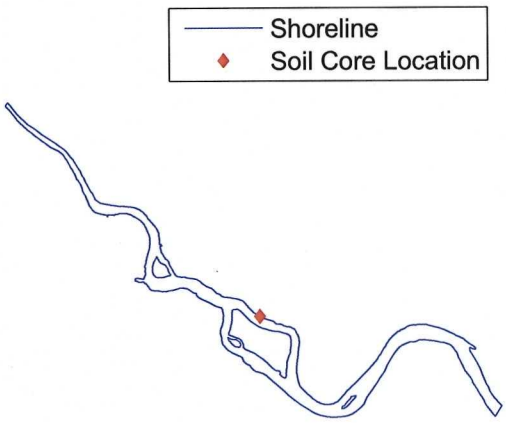
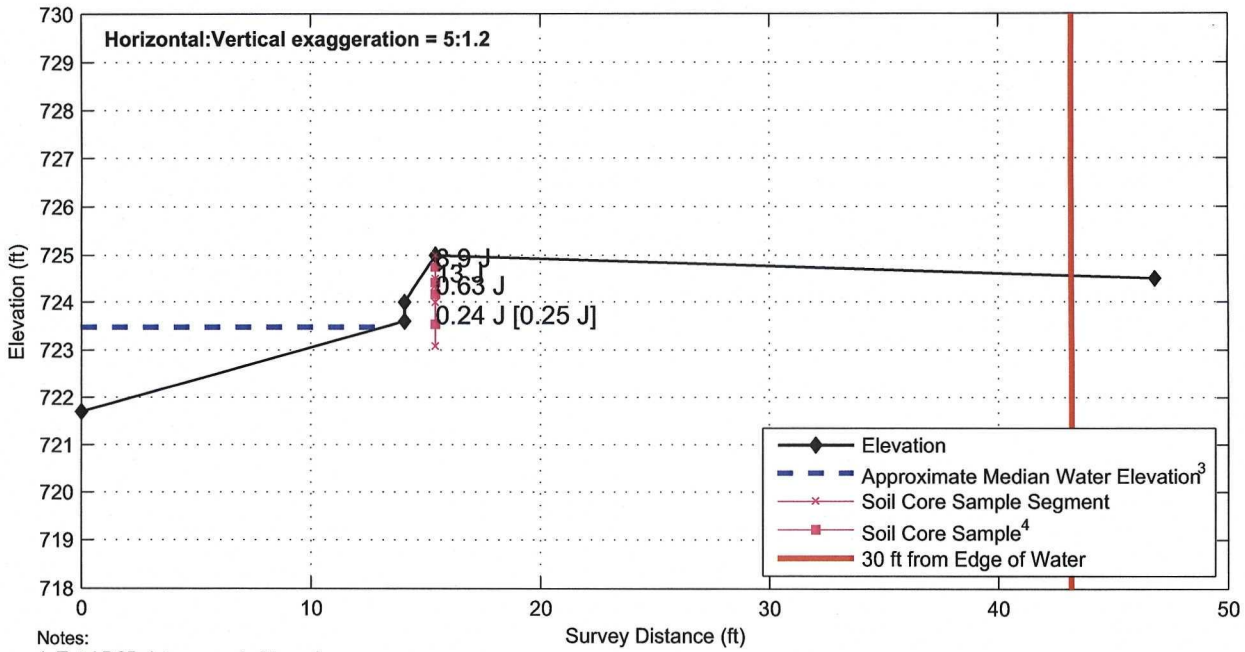
Plainwell No. 2 Bank Profiles
Transect: P2BN-28

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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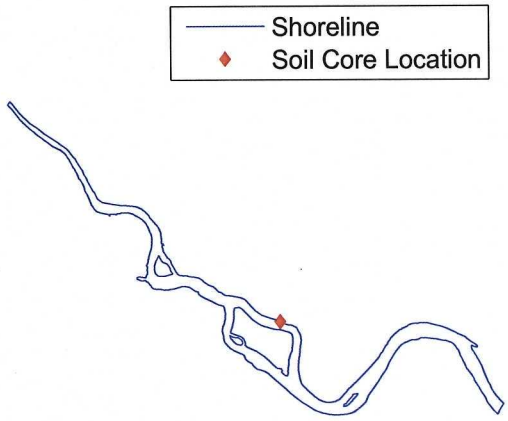
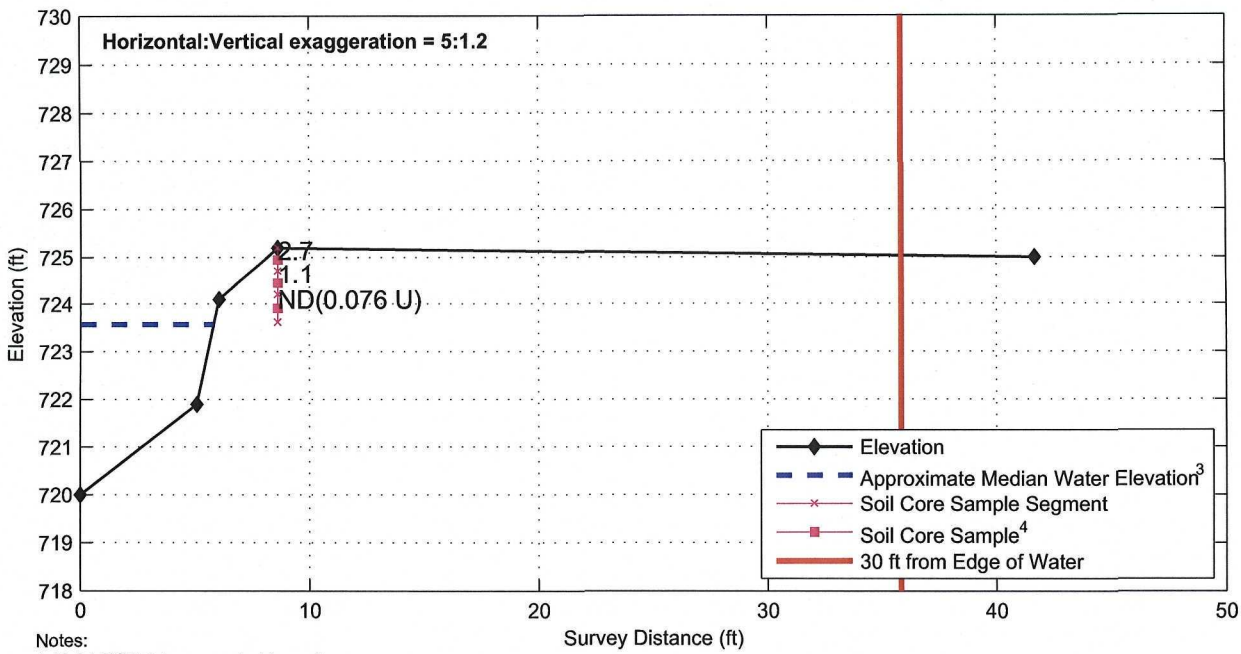
Plainwell No. 2 Bank Profiles
Transect: P2BN-29

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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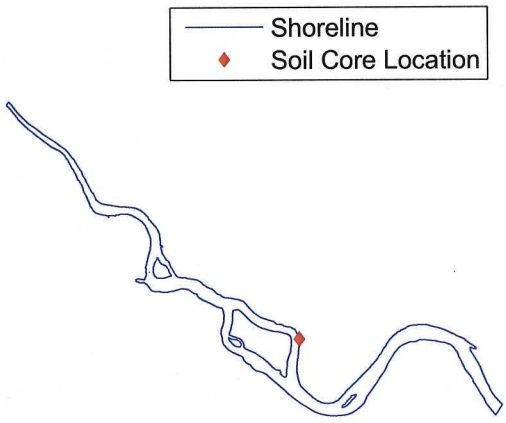
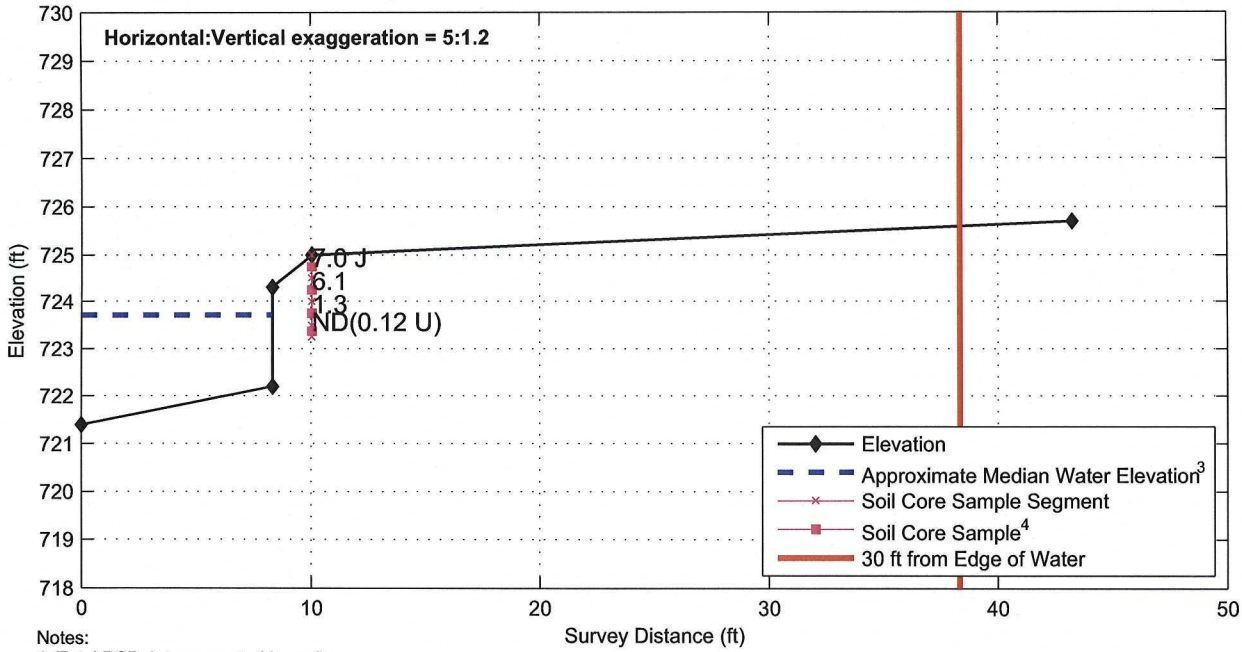
Plainwell No. 2 Bank Profiles
Transect: P2BN-30

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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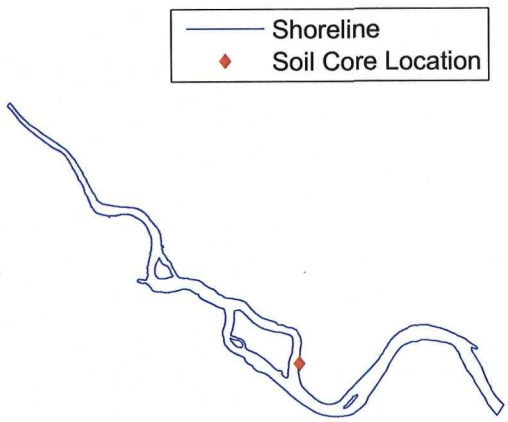
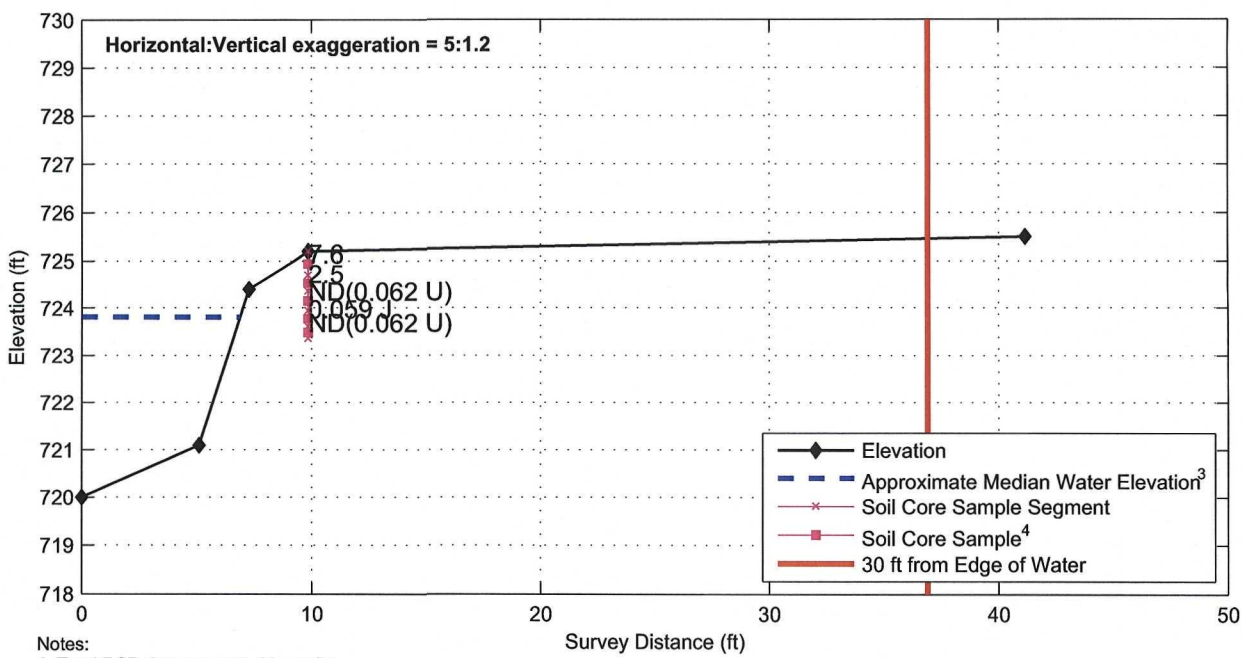
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-31

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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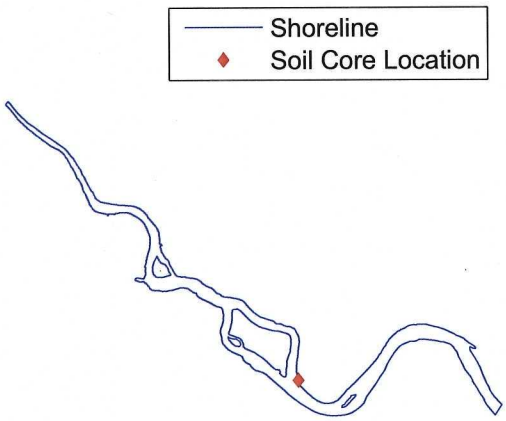
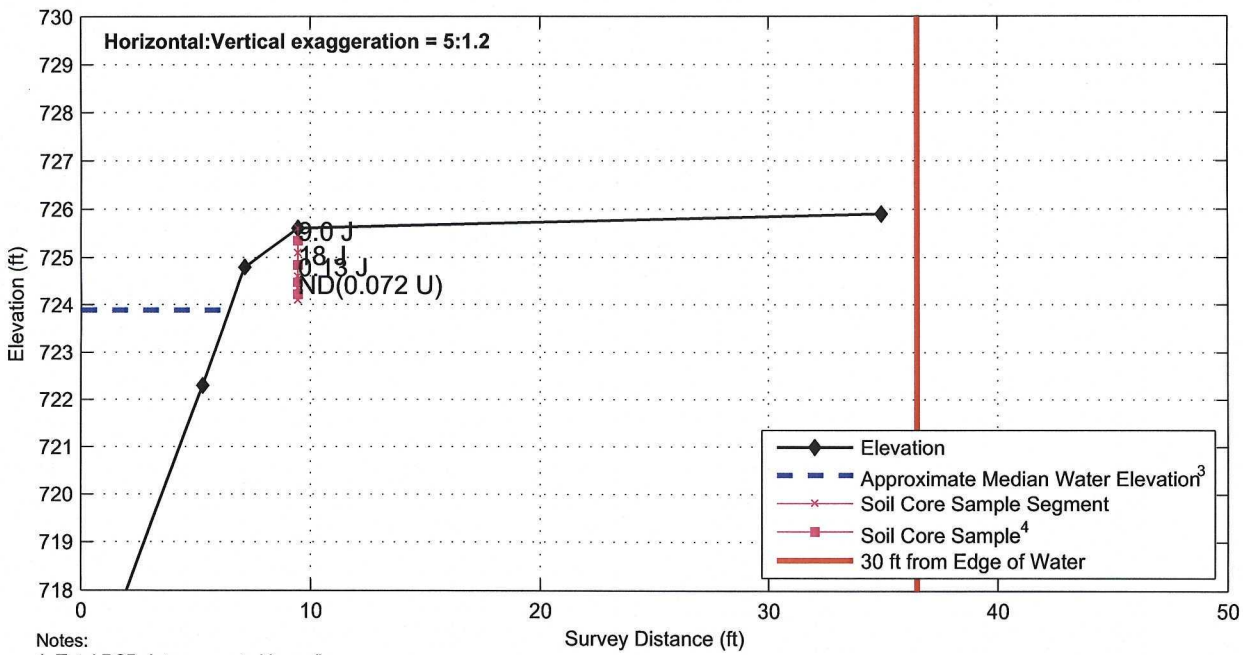
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-32

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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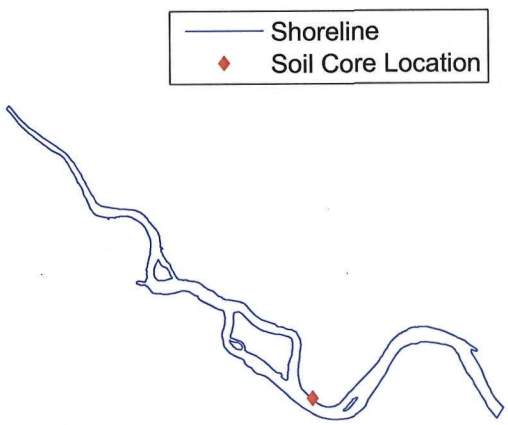
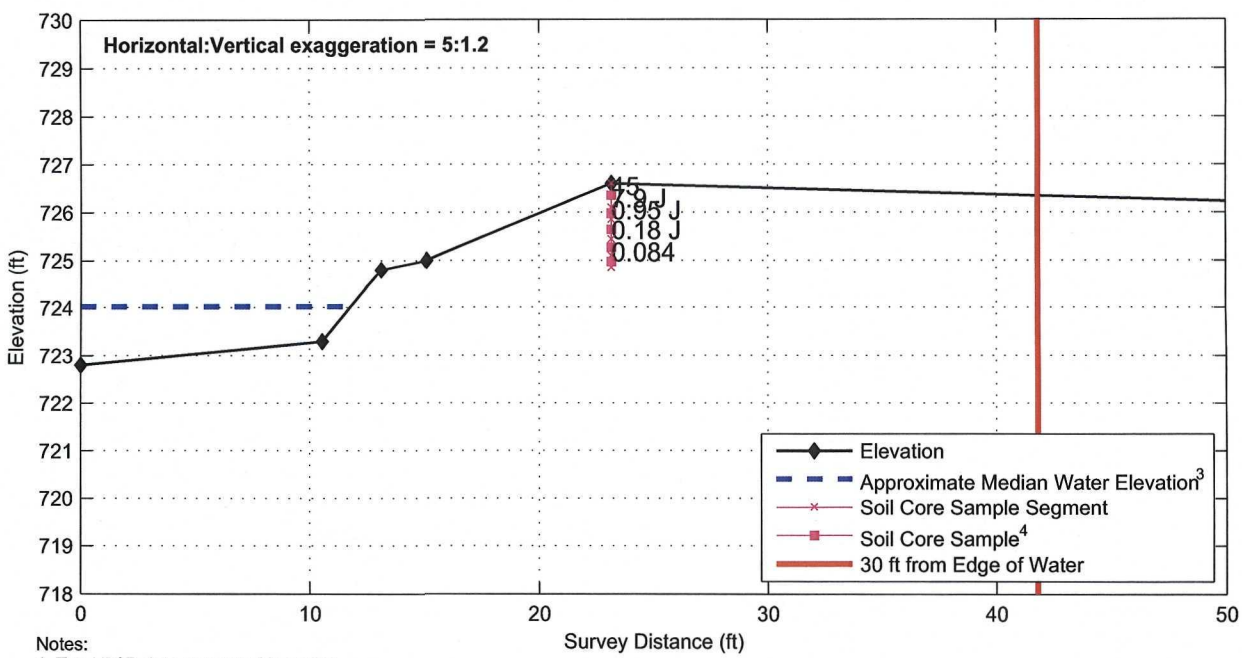
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-33

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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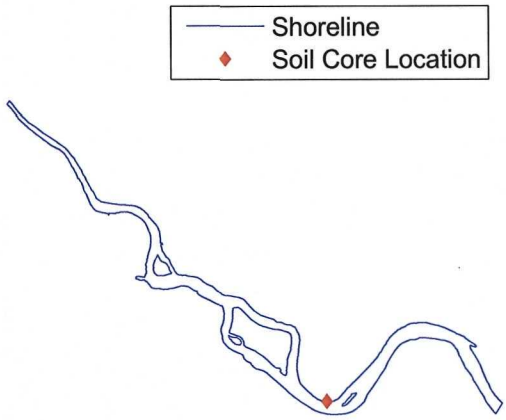
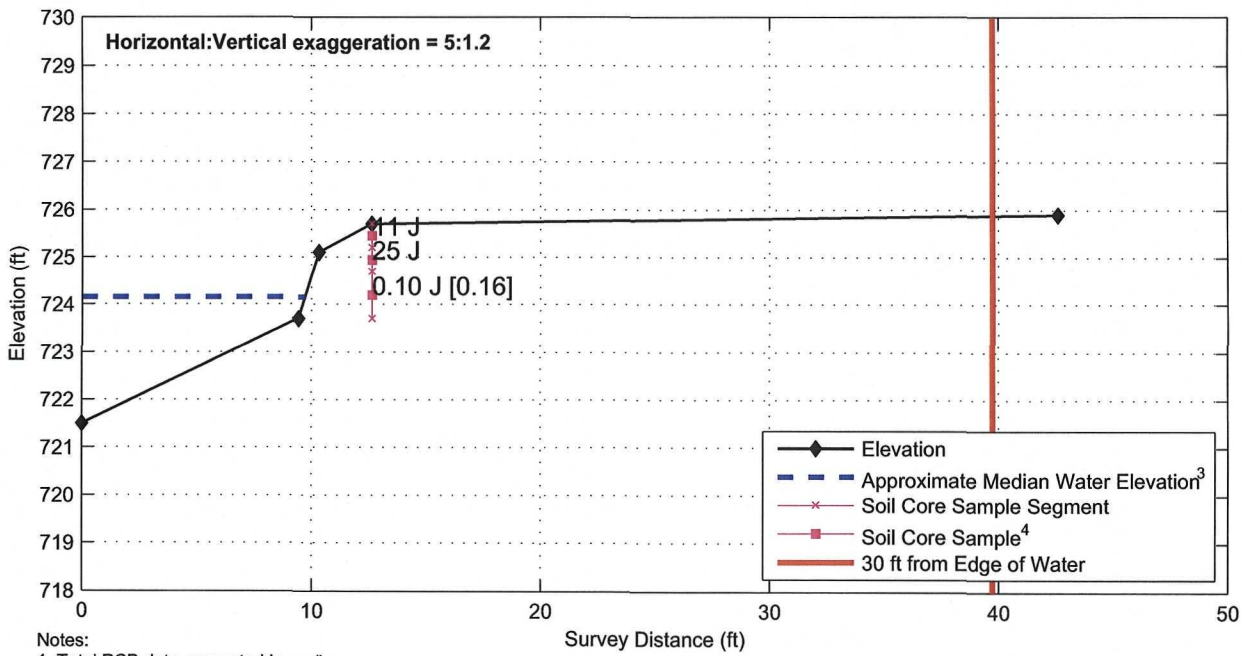
Plainwell No. 2 Bank Profiles
Transect: P2BN-34

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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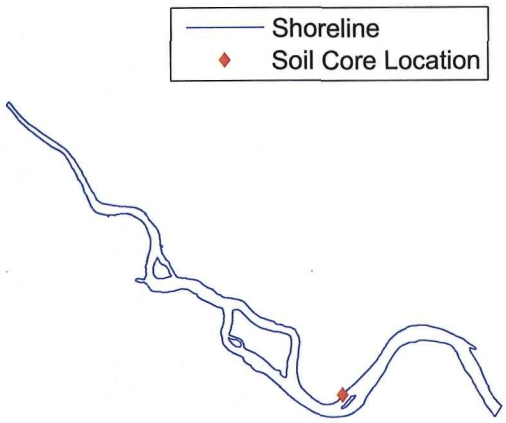
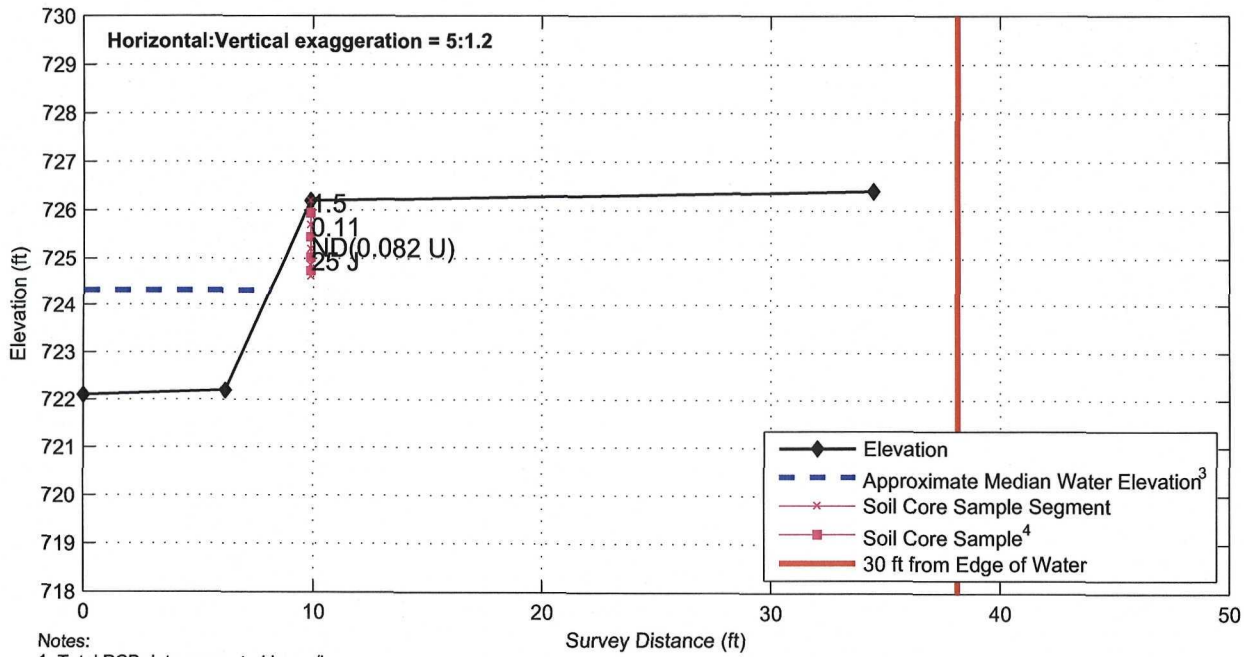
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-35

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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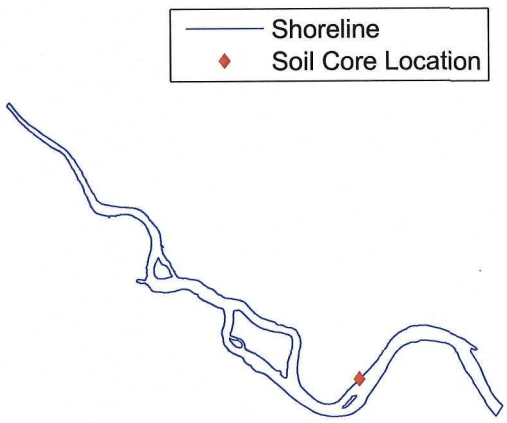
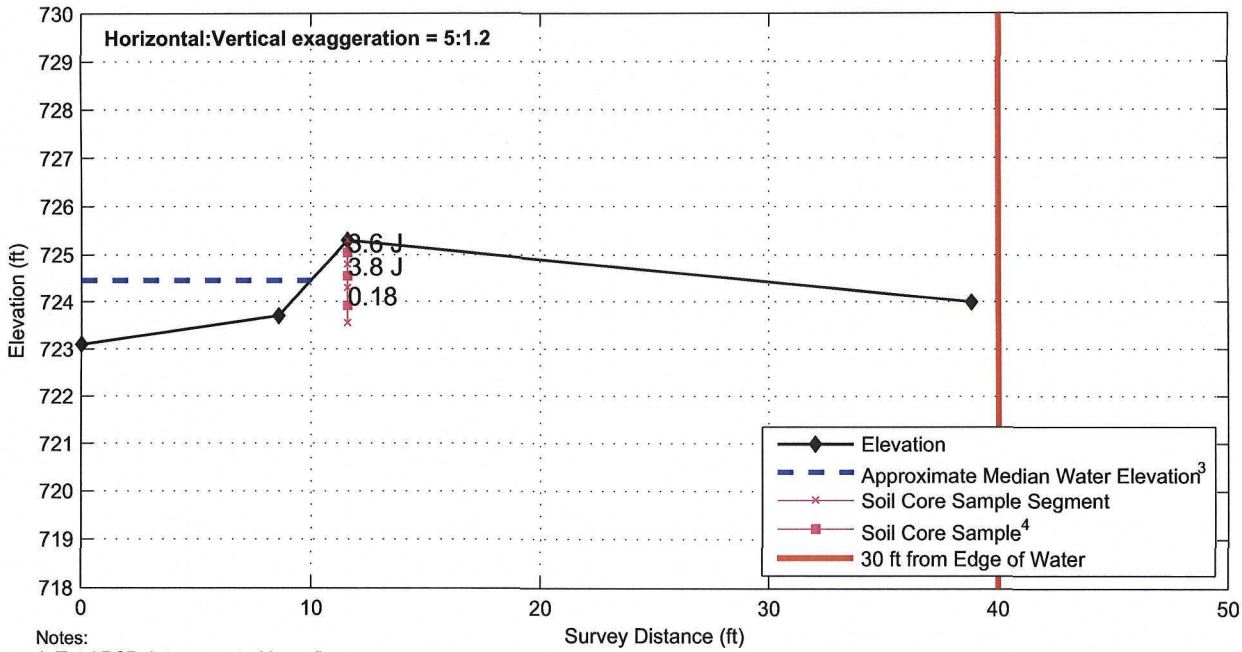
Plainwell No. 2 Bank Profiles
Transect: P2BN-36

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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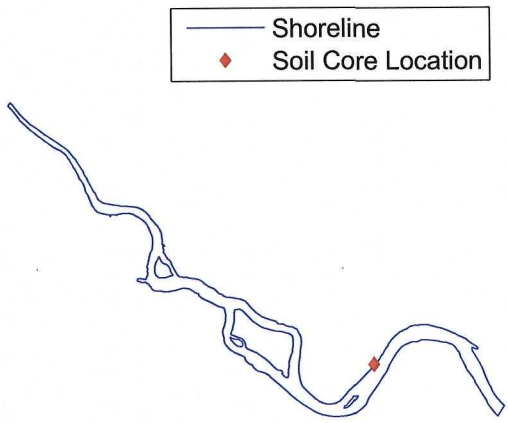
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-37

Site Map



Bank Photograph

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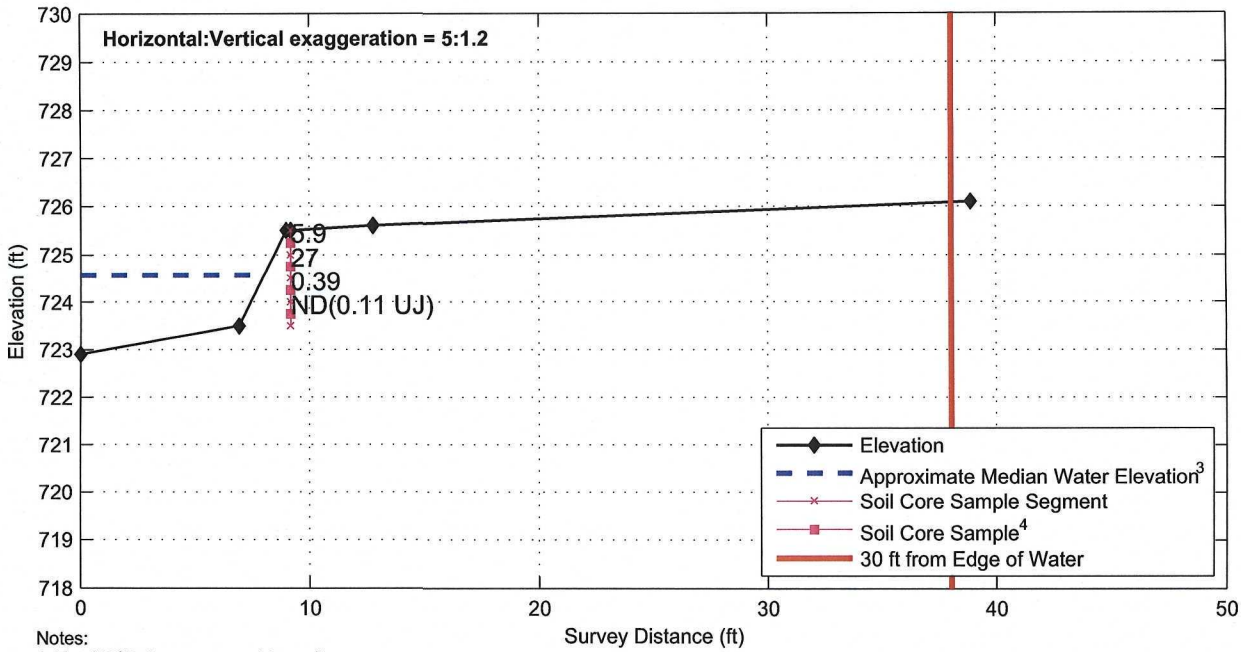

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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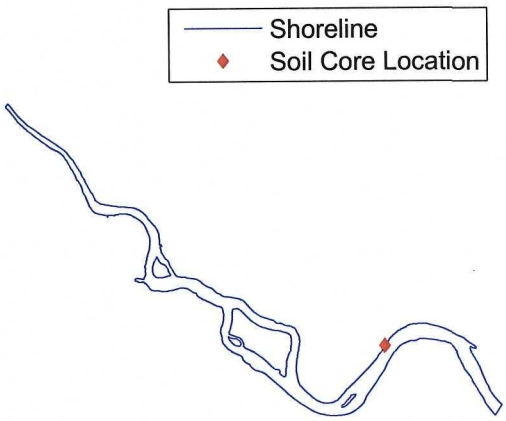
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-38

Site Map



Bank Photograph

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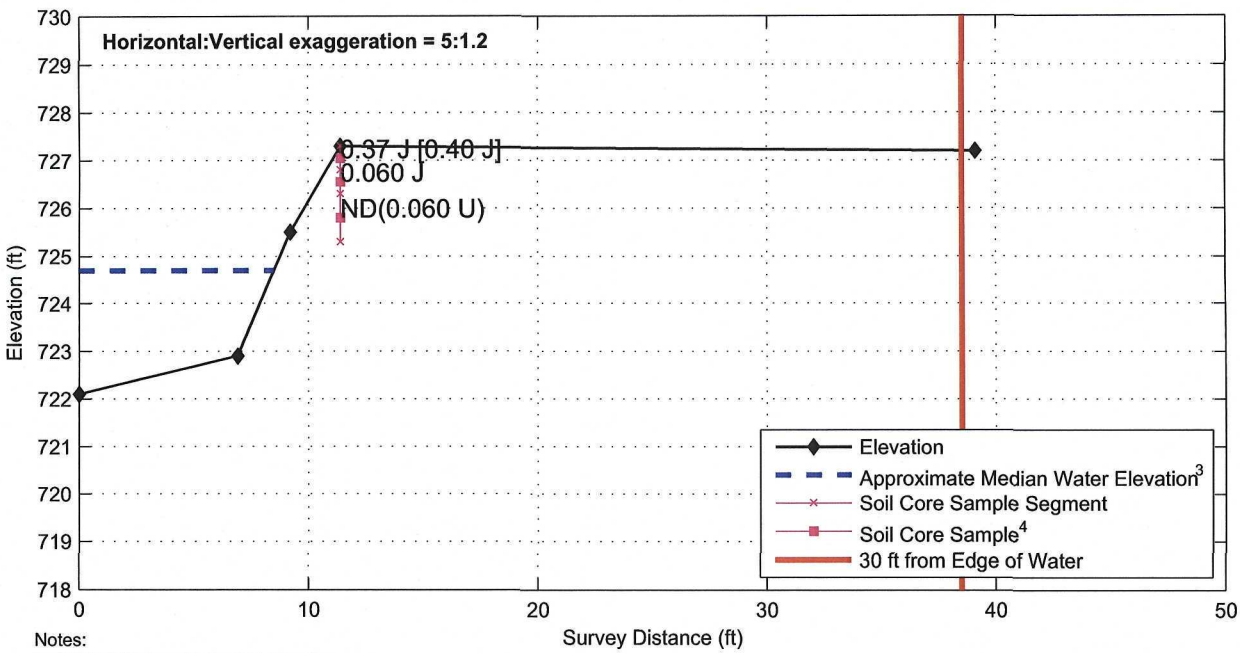

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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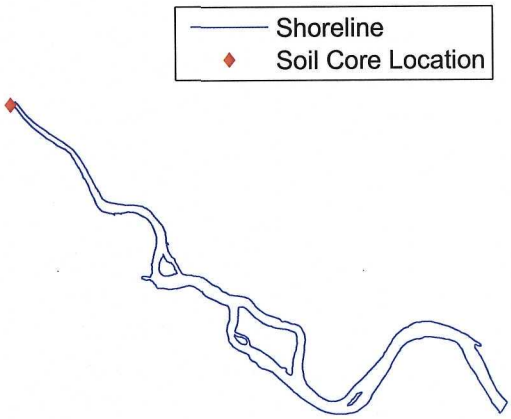
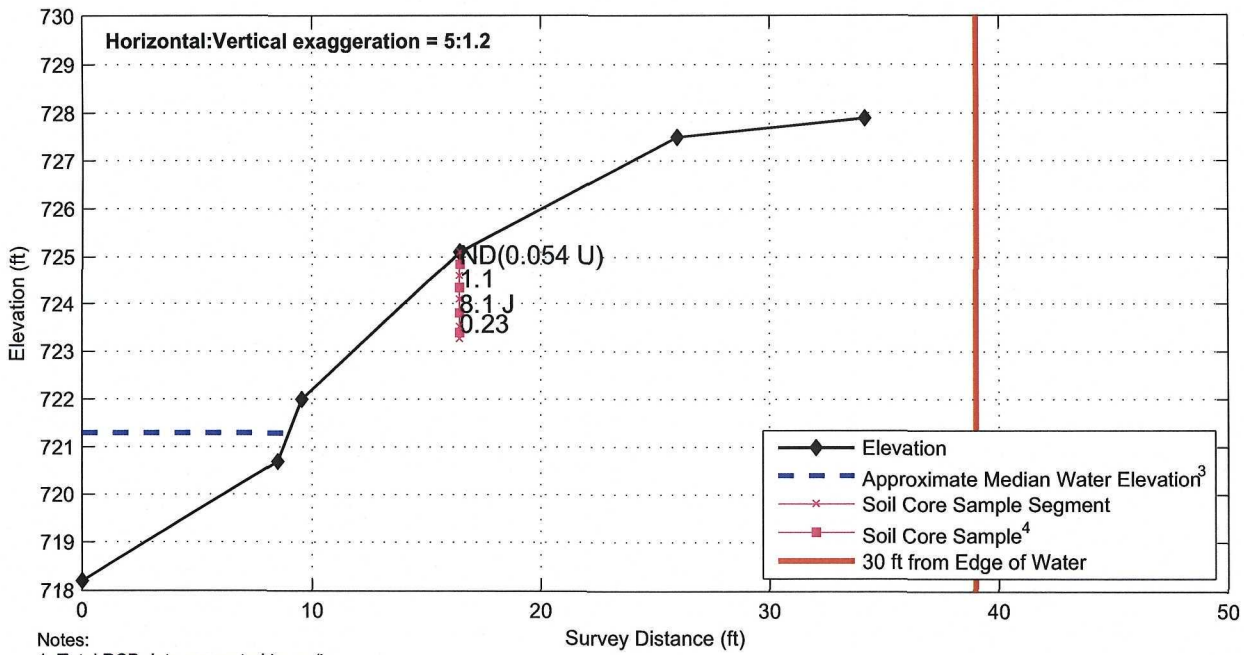
Plainwell No. 2 Bank Profiles
Transect: P2BS-01

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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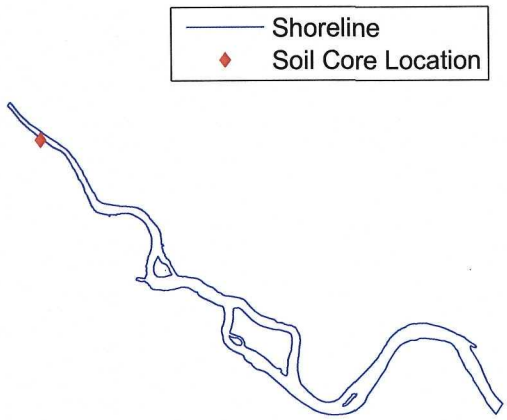
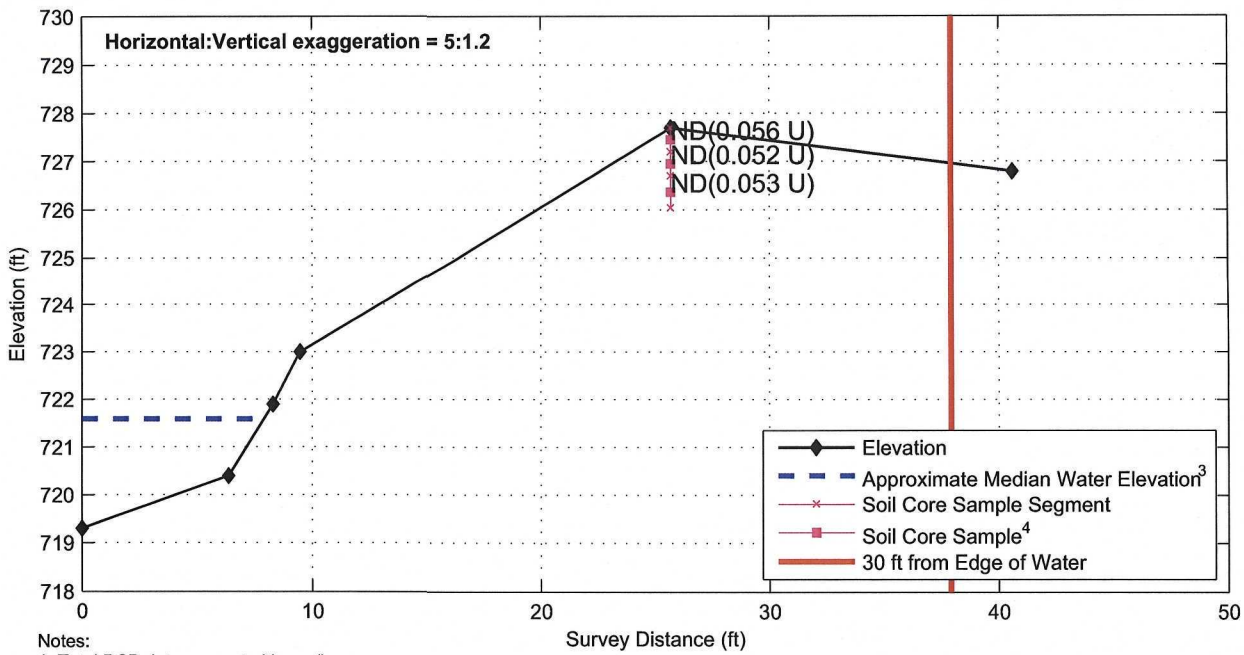
Plainwell No. 2 Bank Profiles
Transect: P2BS-02

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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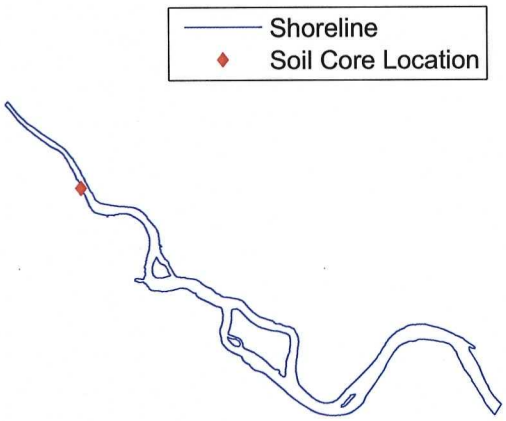
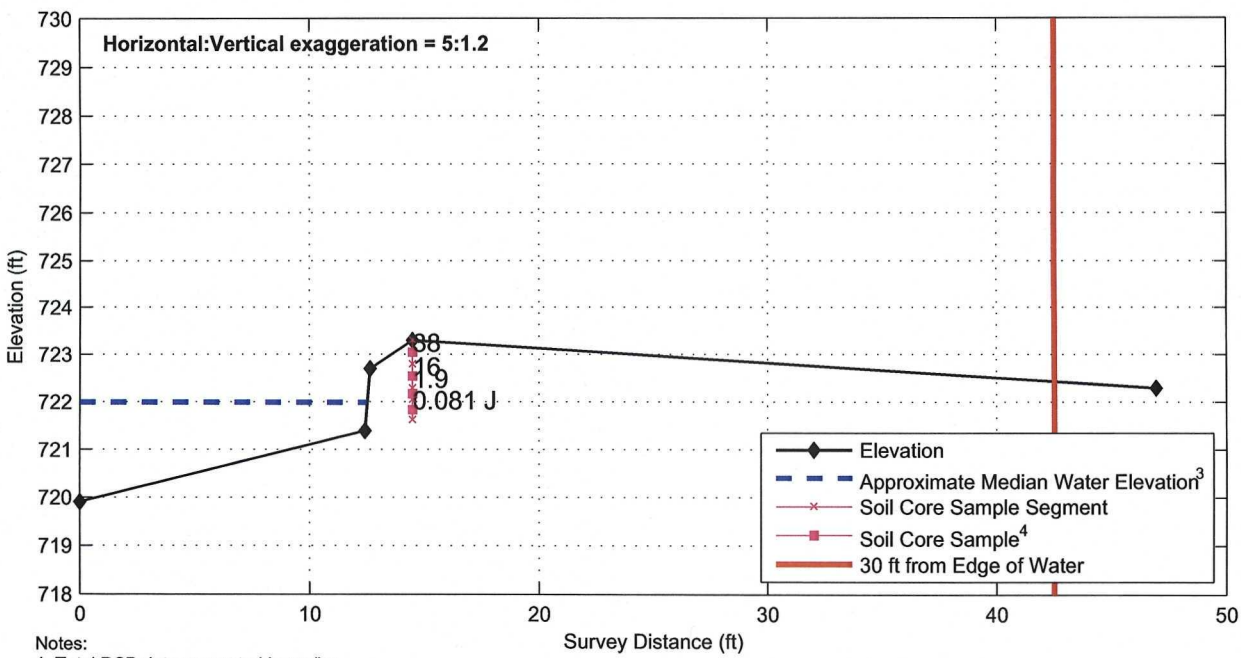
Plainwell No. 2 Bank Profiles
Transect: P2BS-03

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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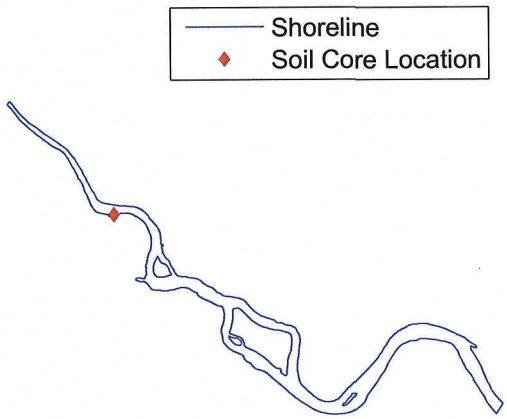
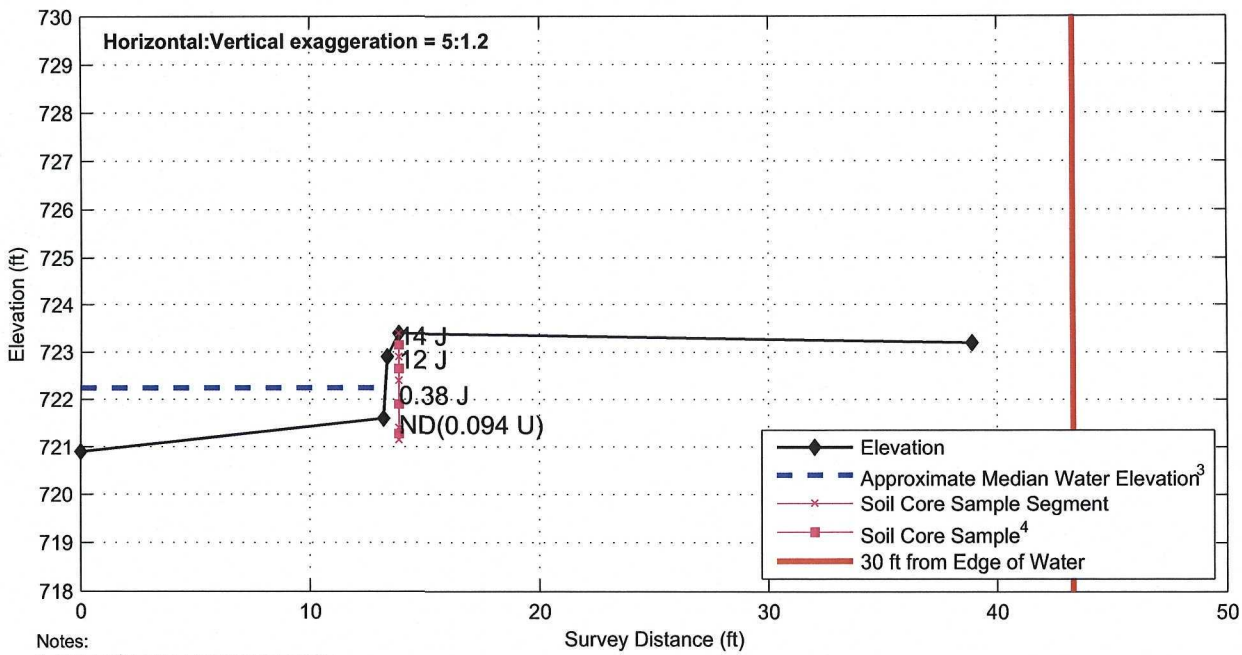
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-04

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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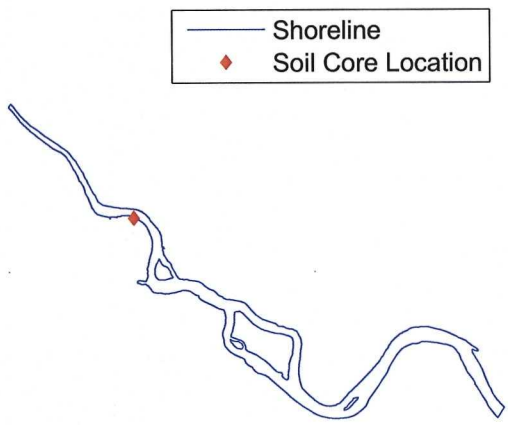
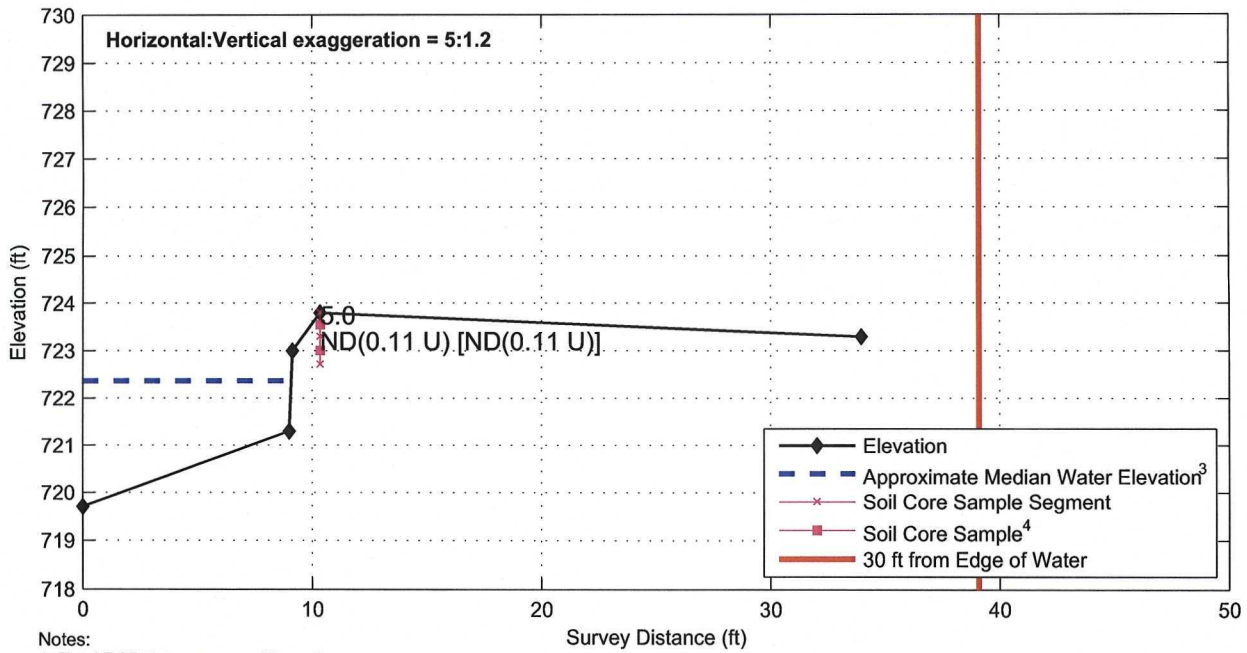
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-05

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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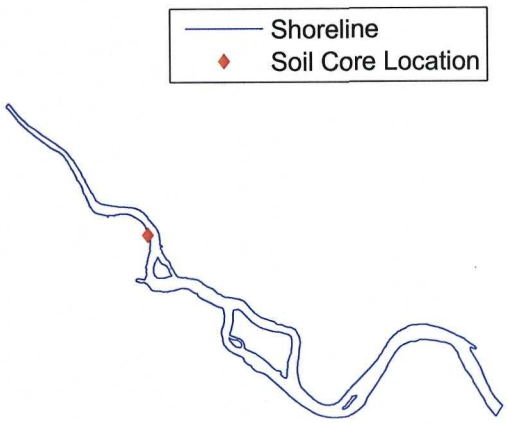
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-06

Site Map



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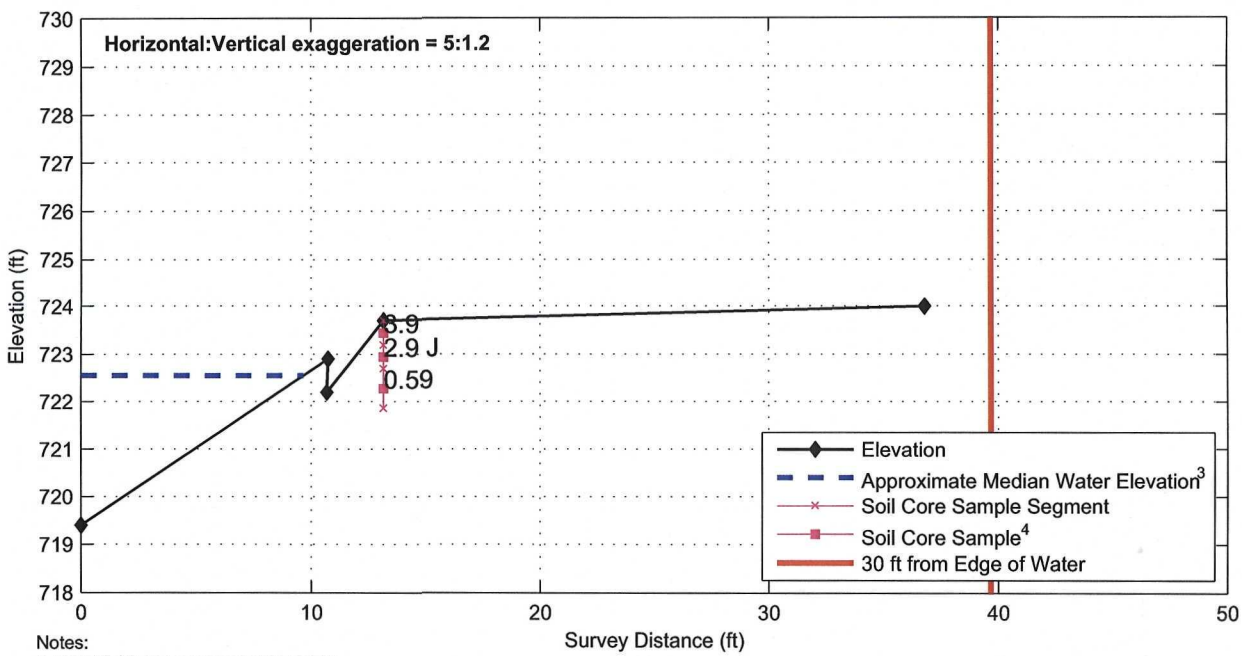

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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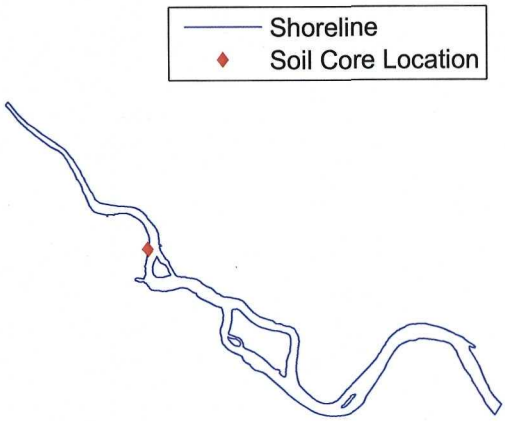
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-07

Site Map



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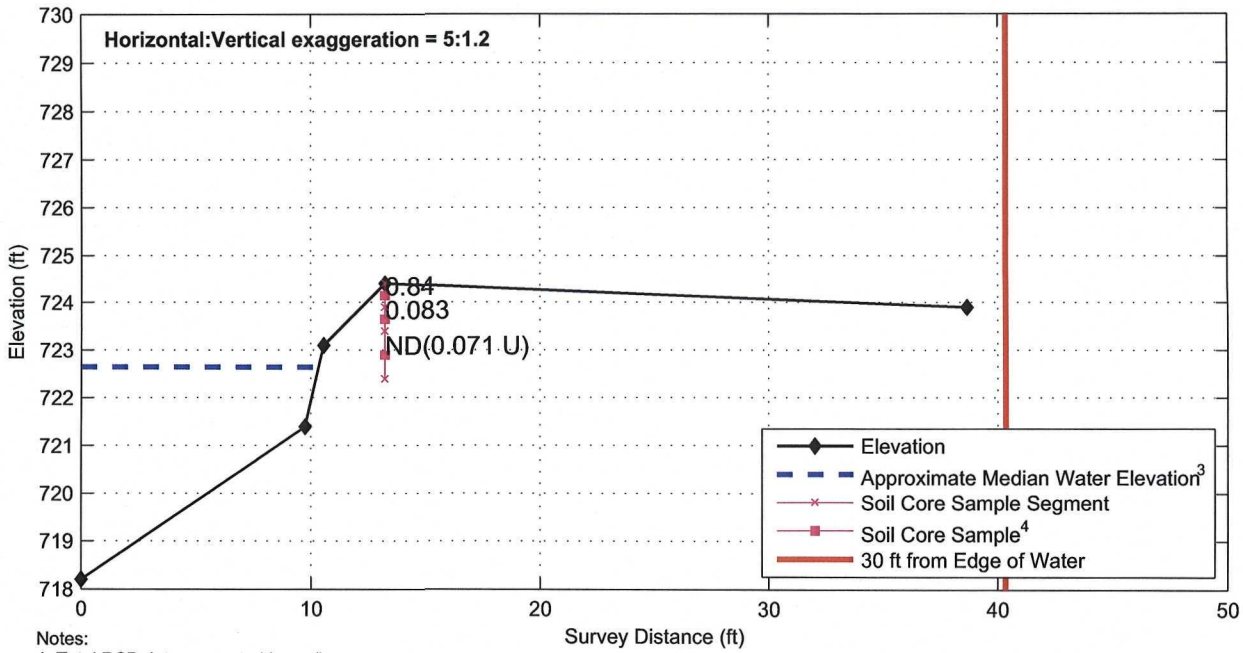

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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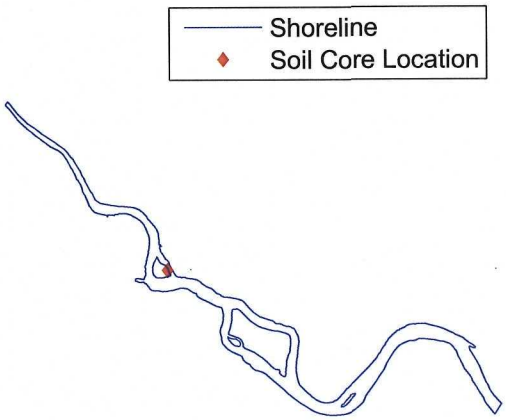
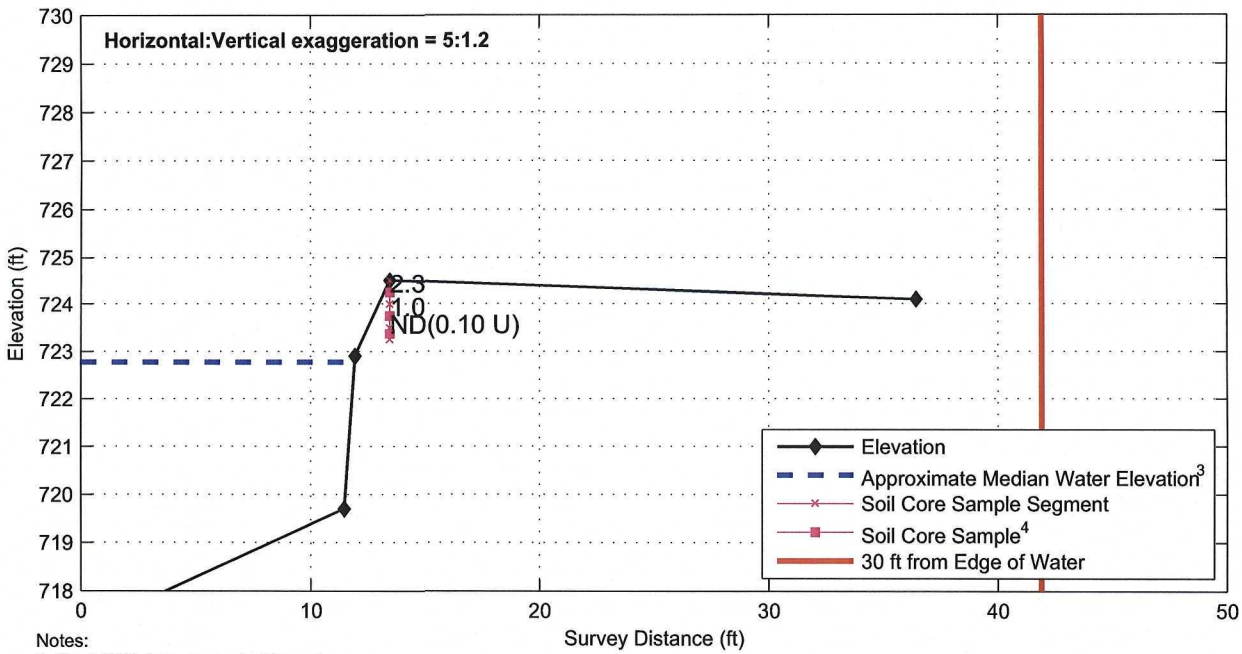
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-08

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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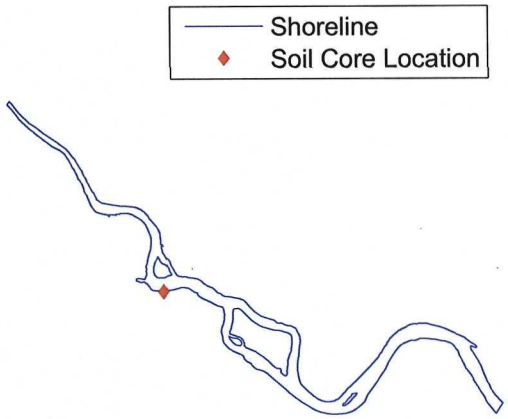
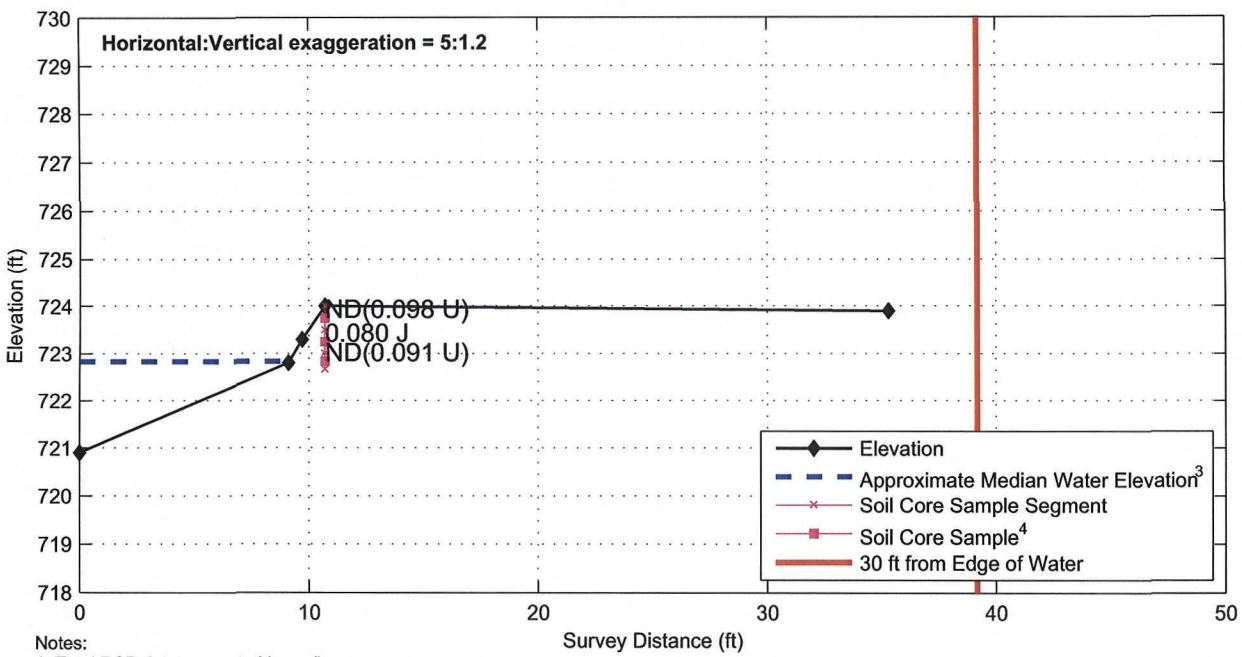
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-09

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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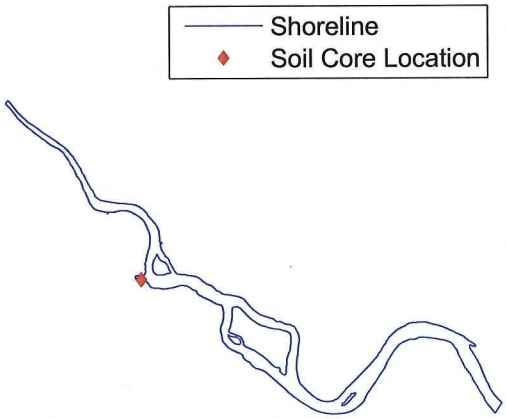
Created by: JDO

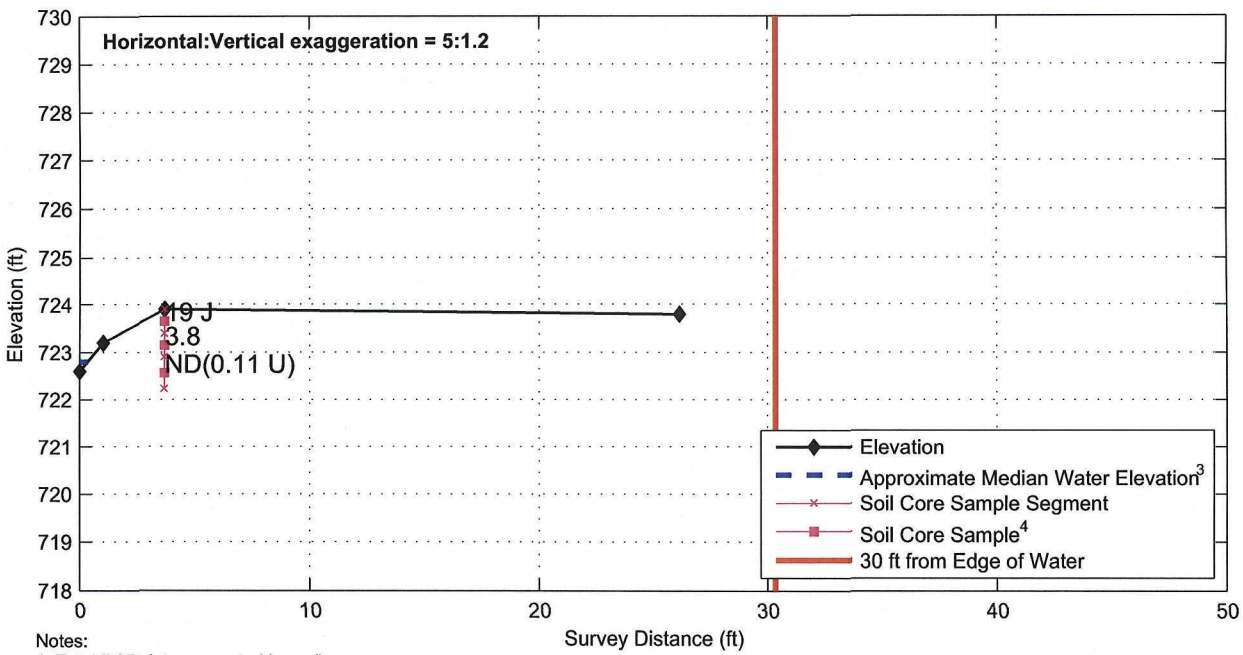
Plainwell No. 2 Bank Profiles
Transect: P2BS-10

Site Map



Bank Photograph

No Photo Available



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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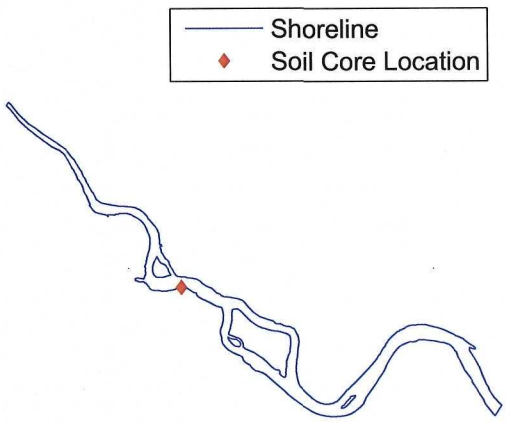
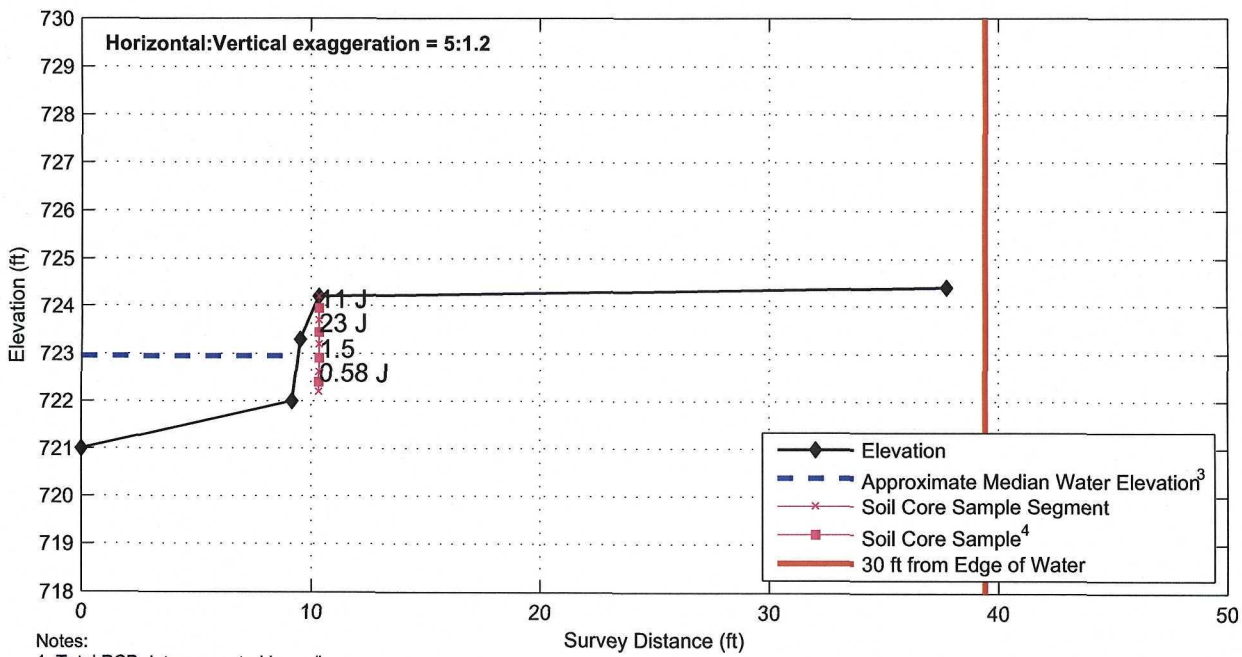
Plainwell No. 2 Bank Profiles
Transect: P2BS-19

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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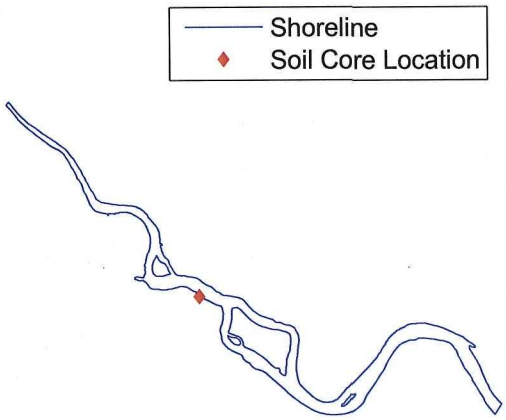
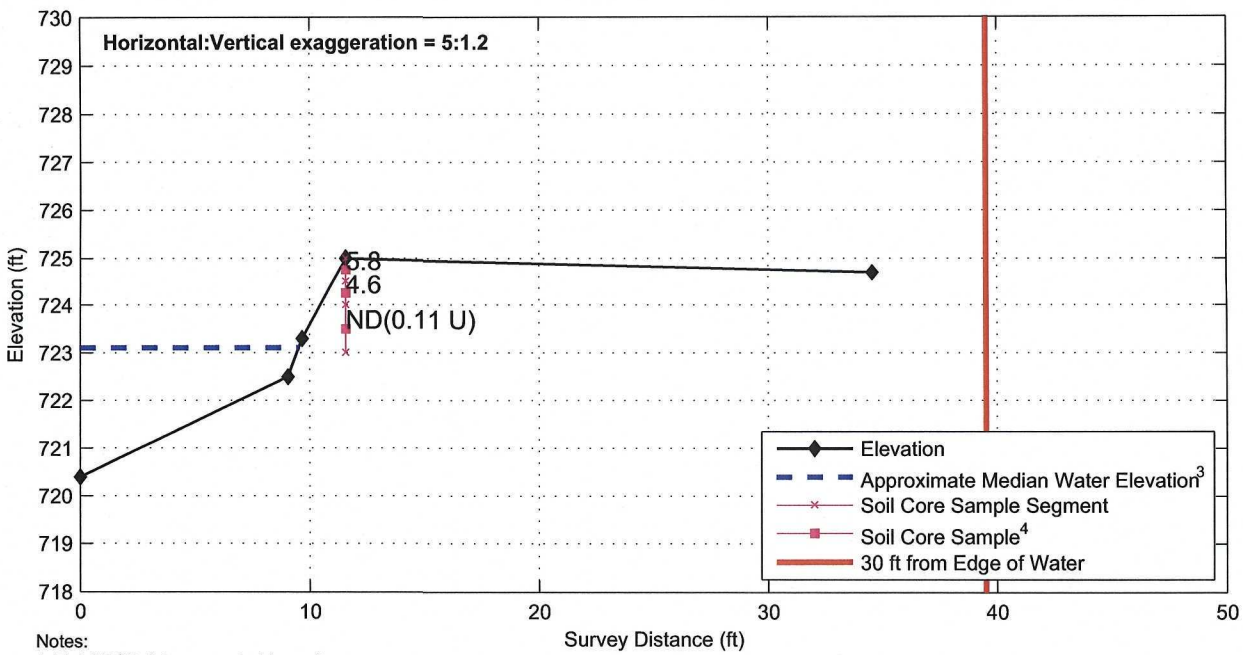
Plainwell No. 2 Bank Profiles
Transect: P2BS-20

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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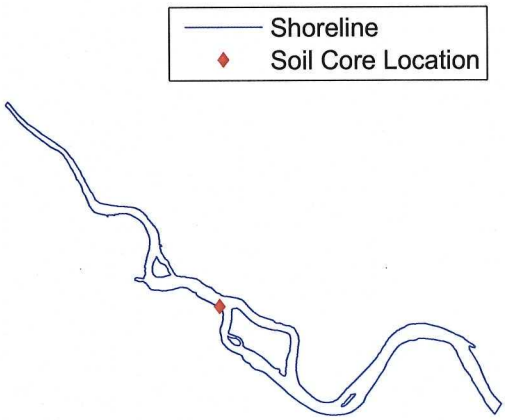
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-21

Site Map



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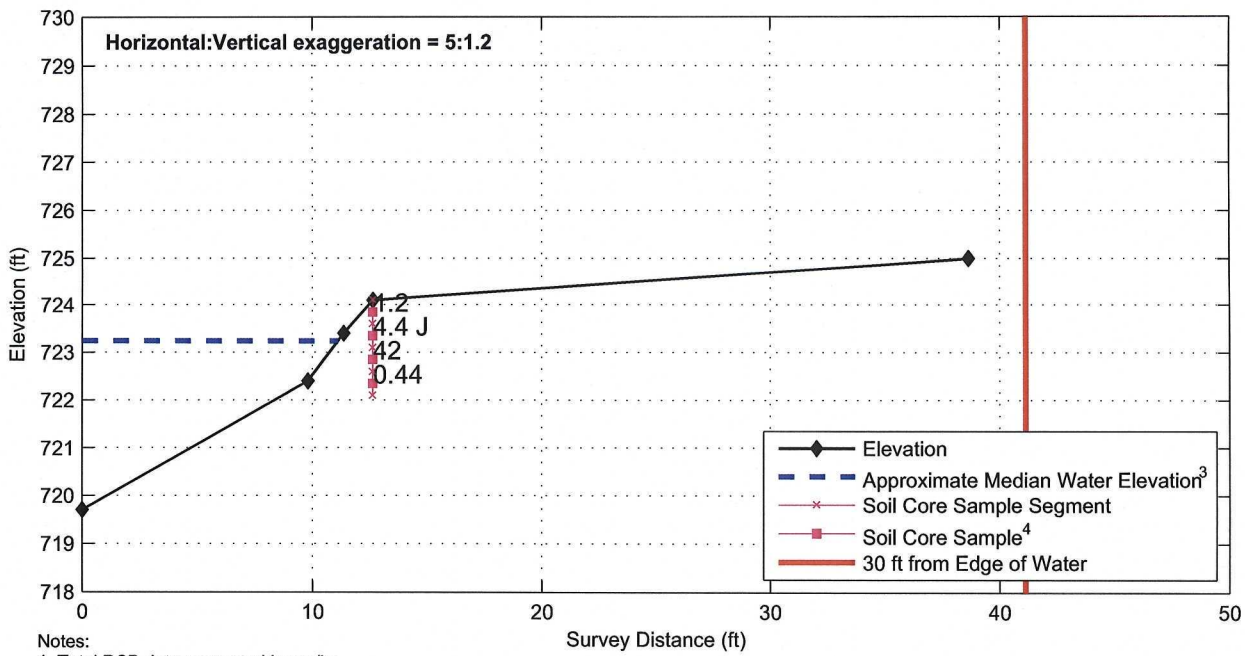

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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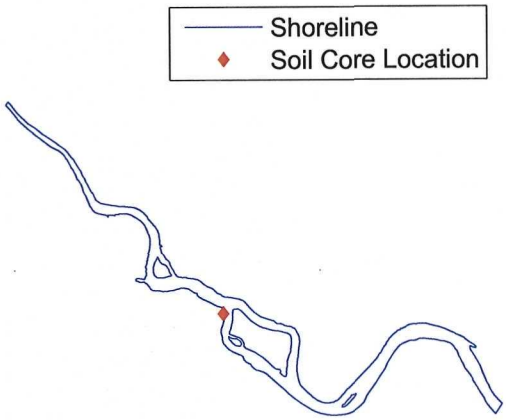
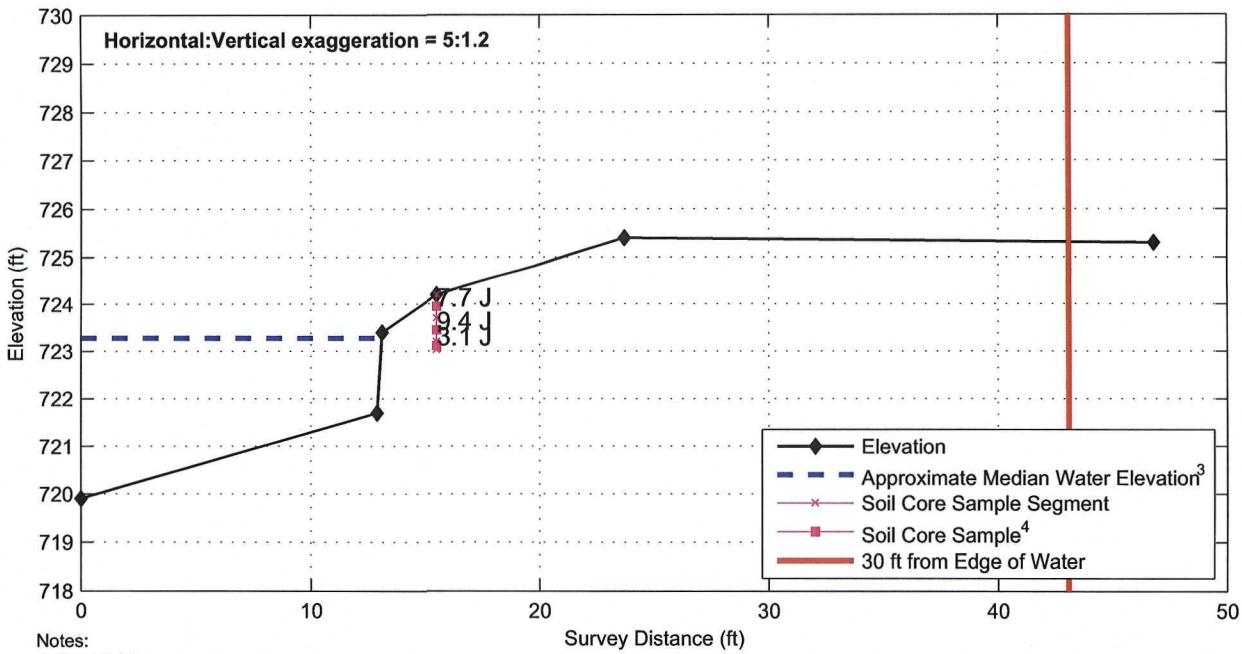
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-22

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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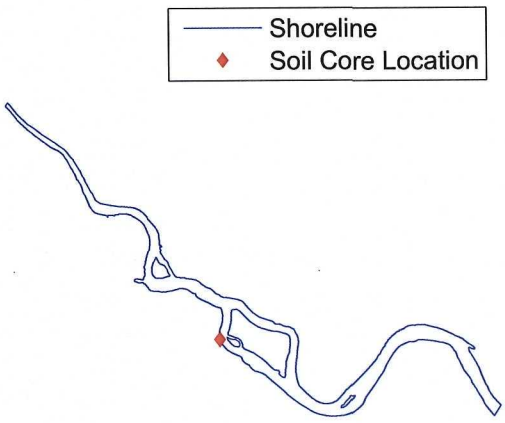
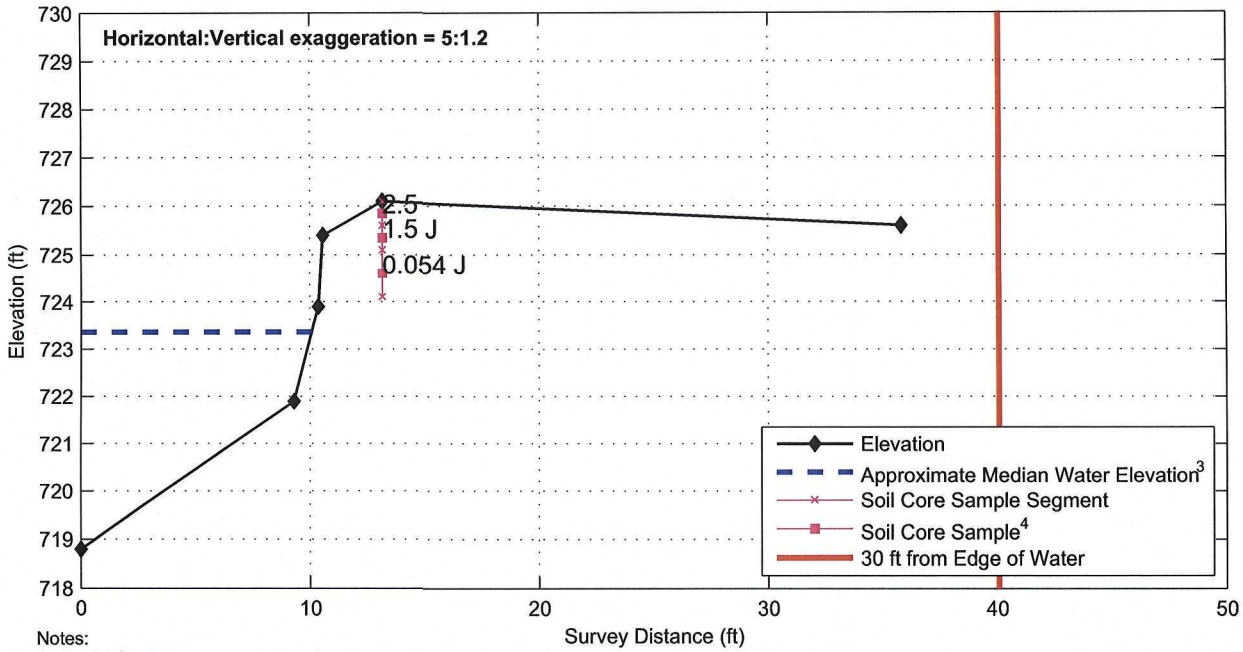
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-23

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. *Bank Limit is not presented for Oxbow locations or locations not included in design*

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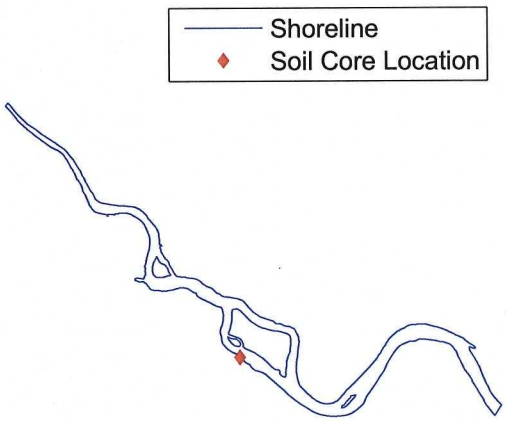
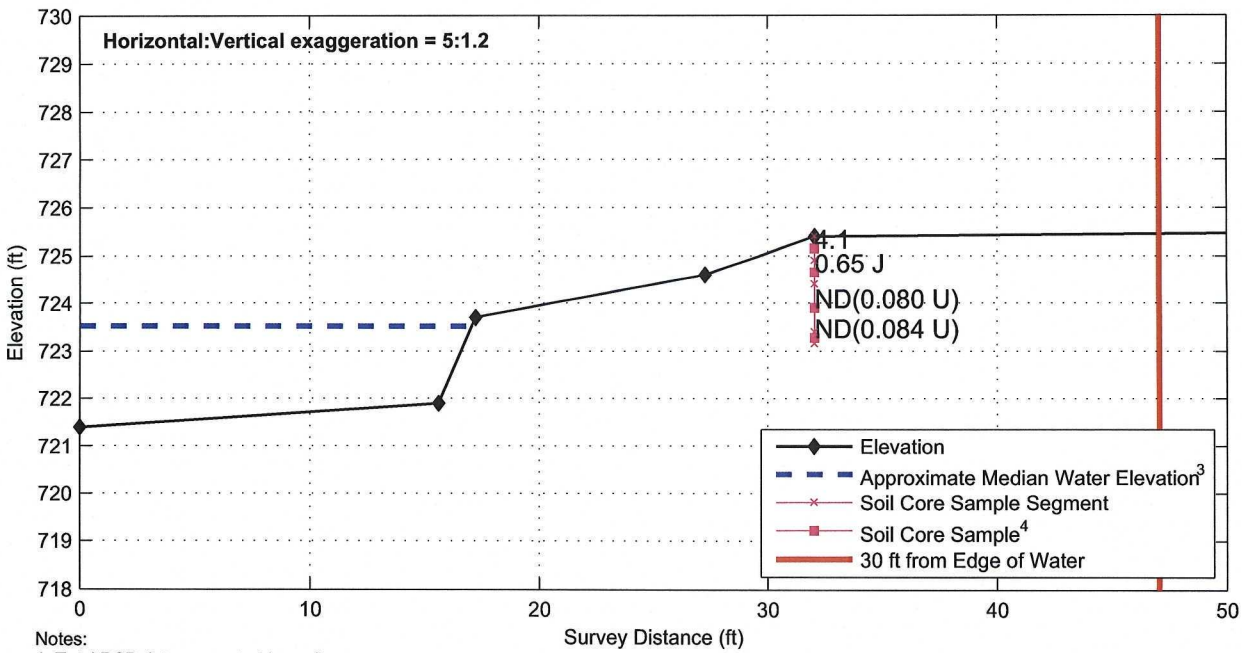
Plainwell No. 2 Bank Profiles
Transect: P2BS-24

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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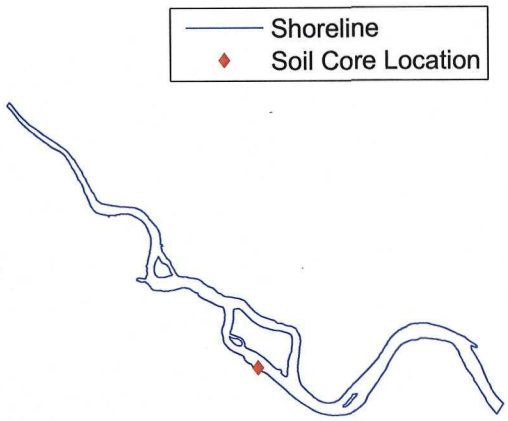
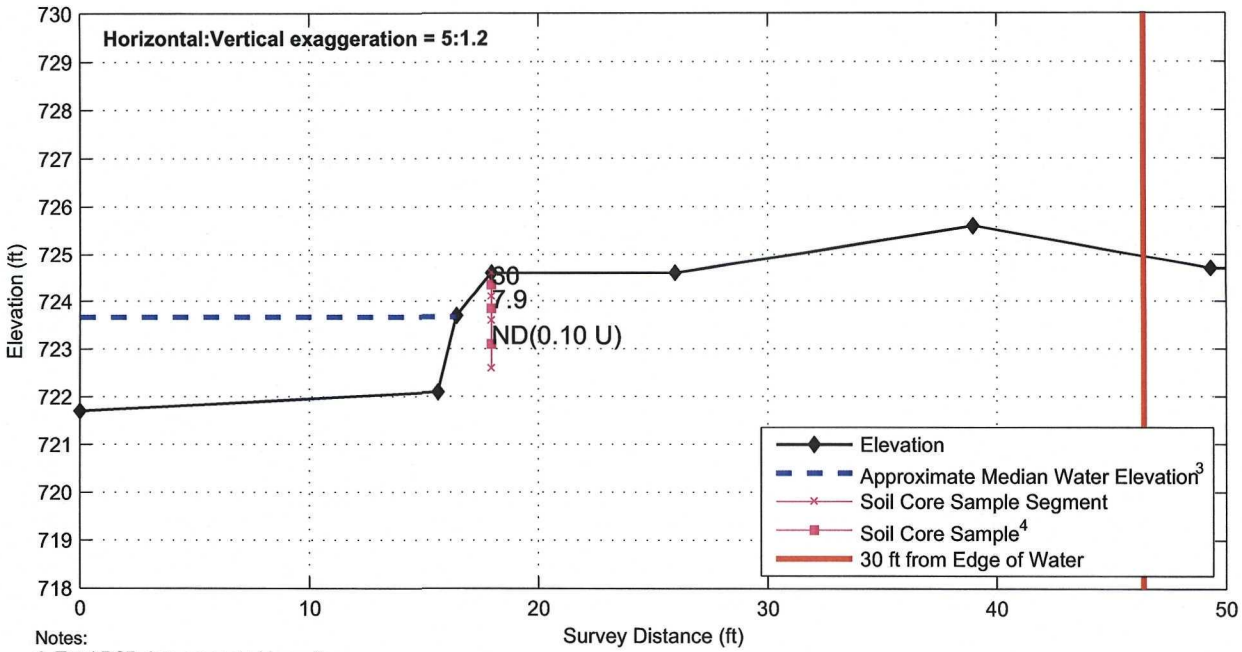
Plainwell No. 2 Bank Profiles
Transect: P2BS-25

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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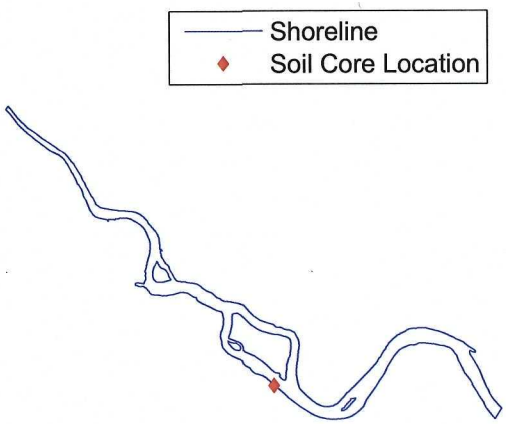
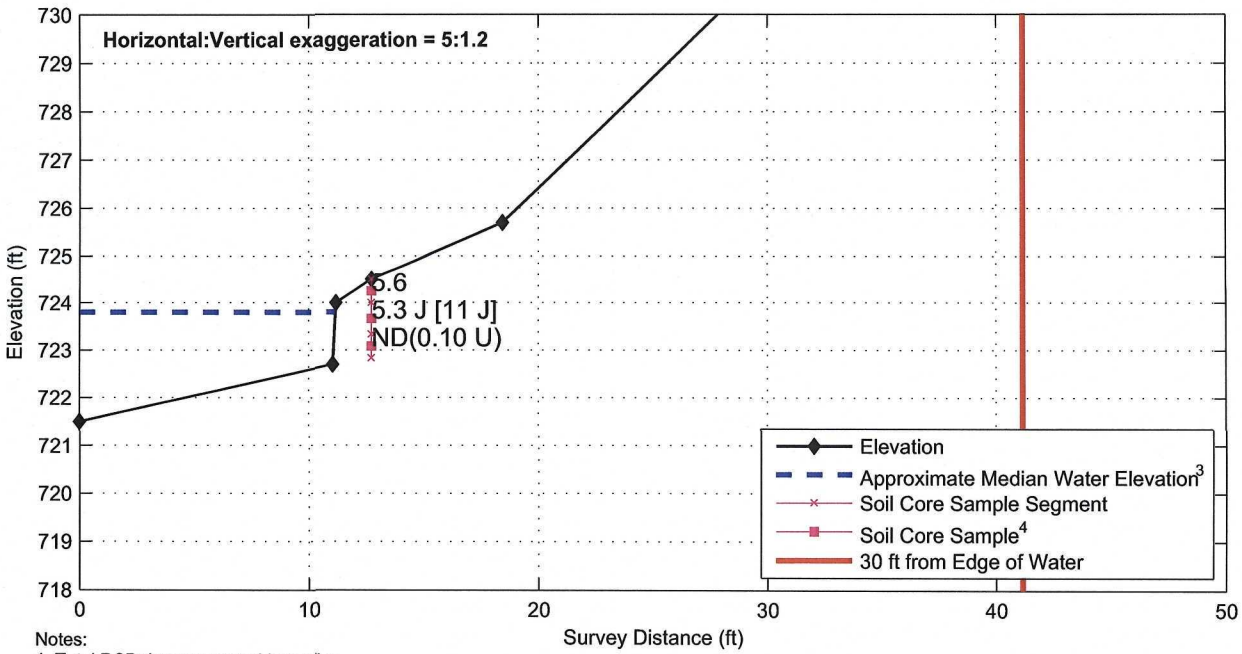
Plainwell No. 2 Bank Profiles
Transect: P2BS-26

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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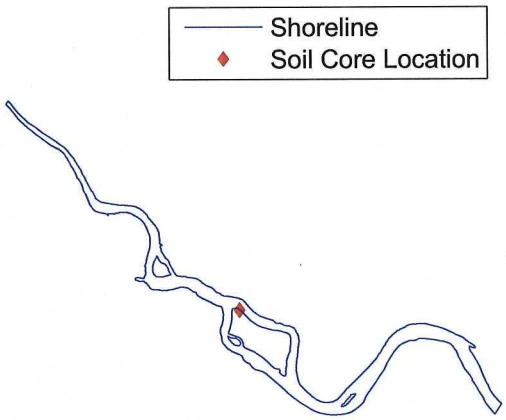
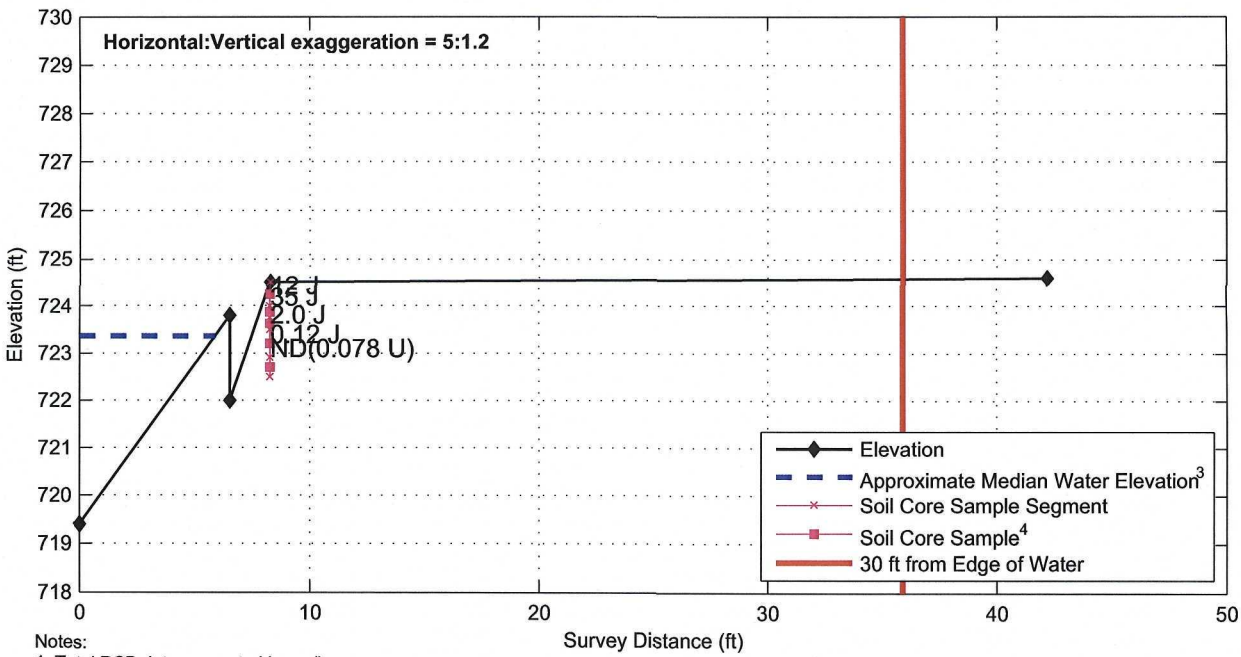
Plainwell No. 2 Bank Profiles
Transect: P2BS-27

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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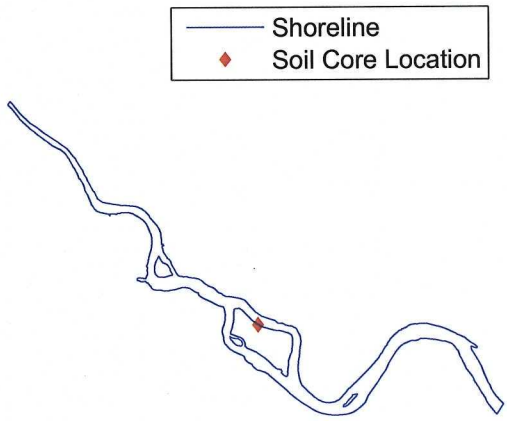
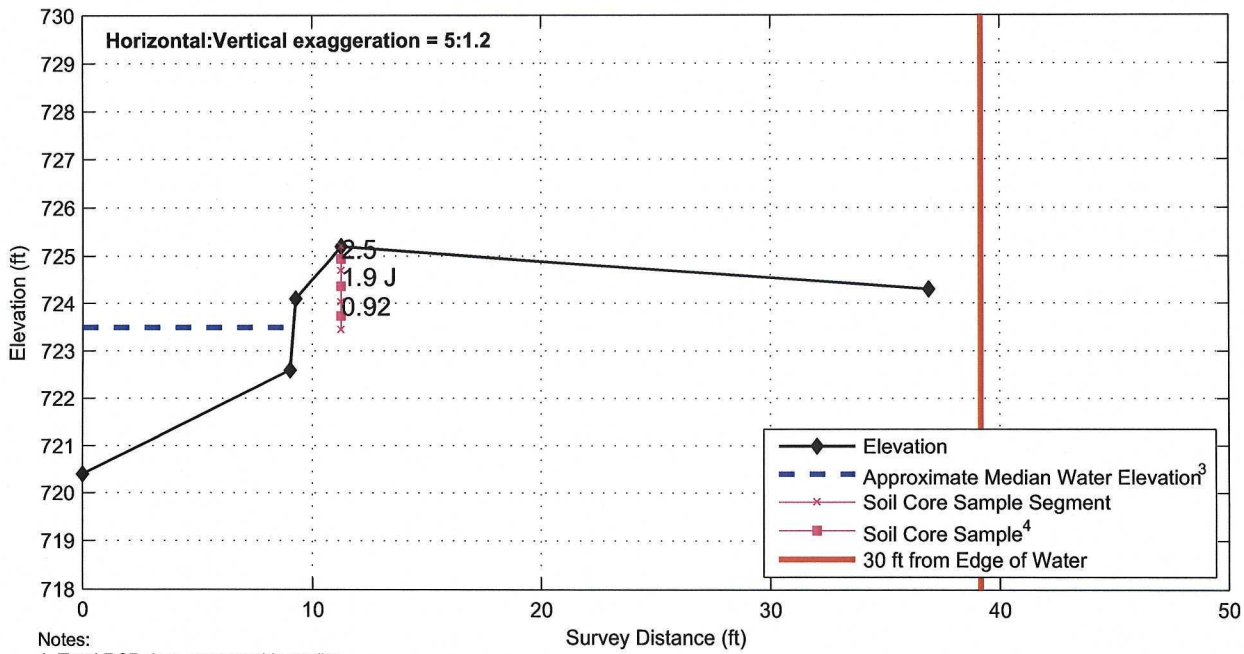
Plainwell No. 2 Bank Profiles
Transect: P2BS-28

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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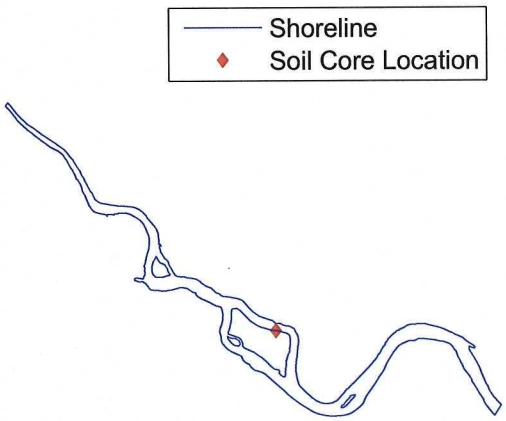
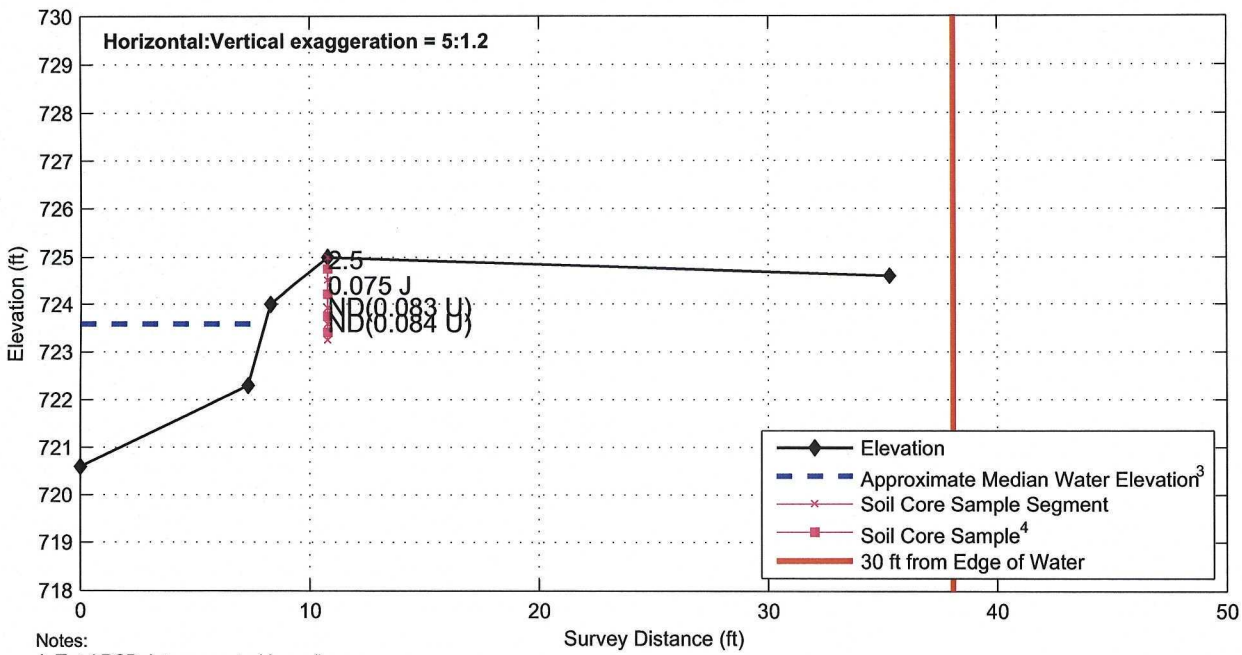
Plainwell No. 2 Bank Profiles
Transect: P2BS-29

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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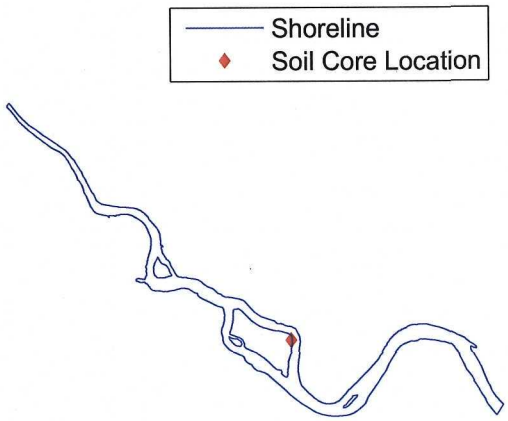
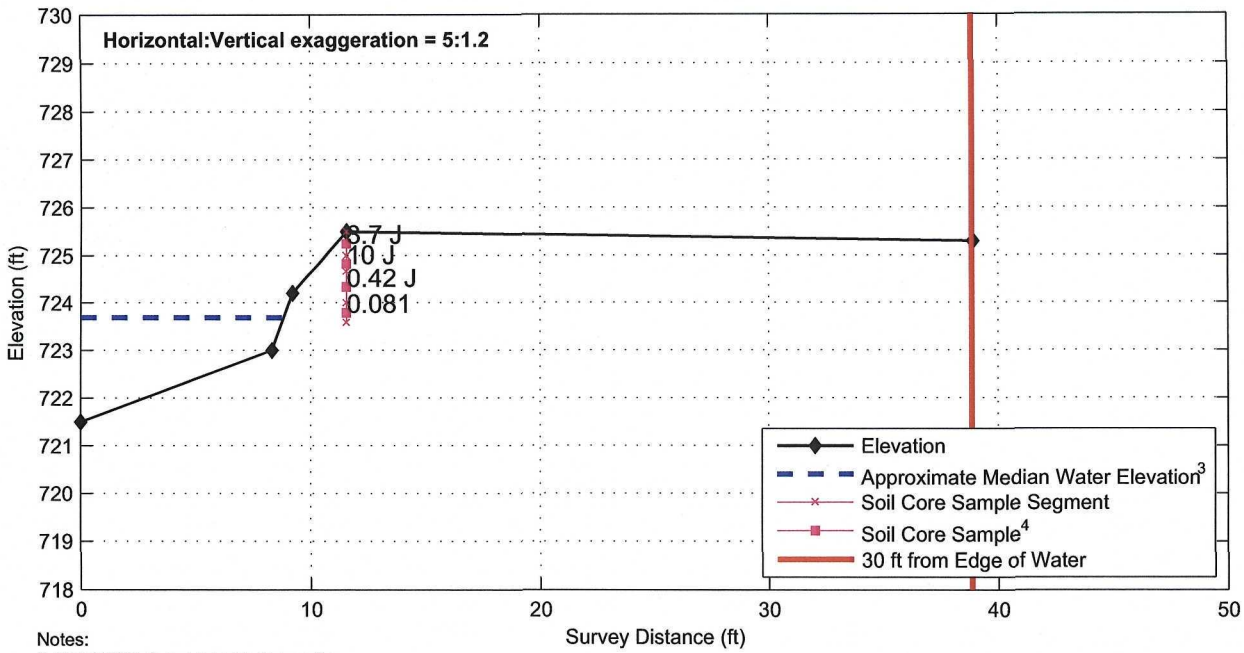
Plainwell No. 2 Bank Profiles
Transect: P2BS-30

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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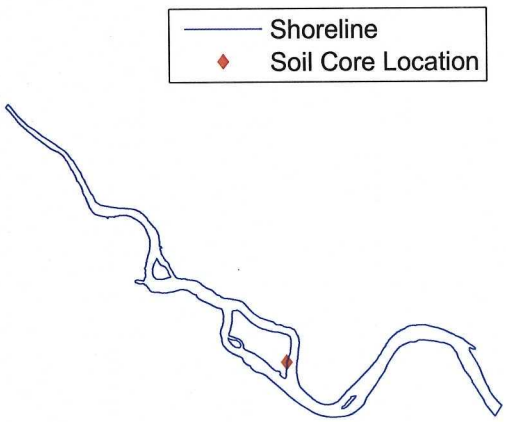
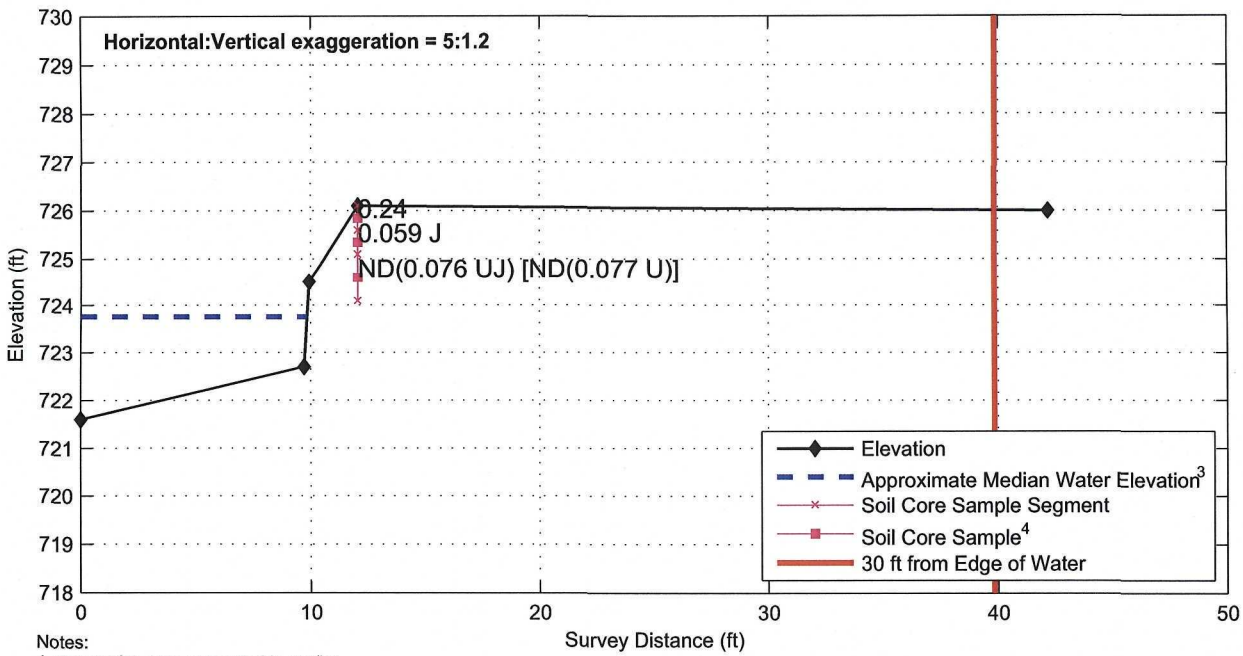
Plainwell No. 2 Bank Profiles
Transect: P2BS-31

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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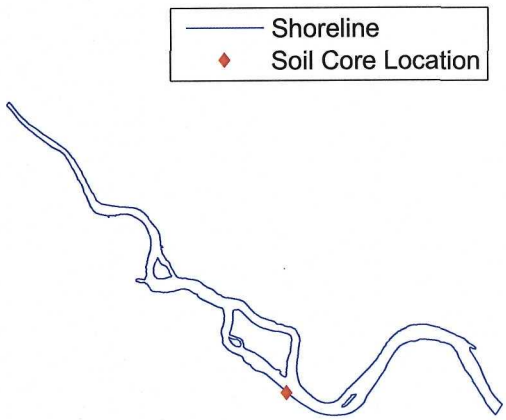
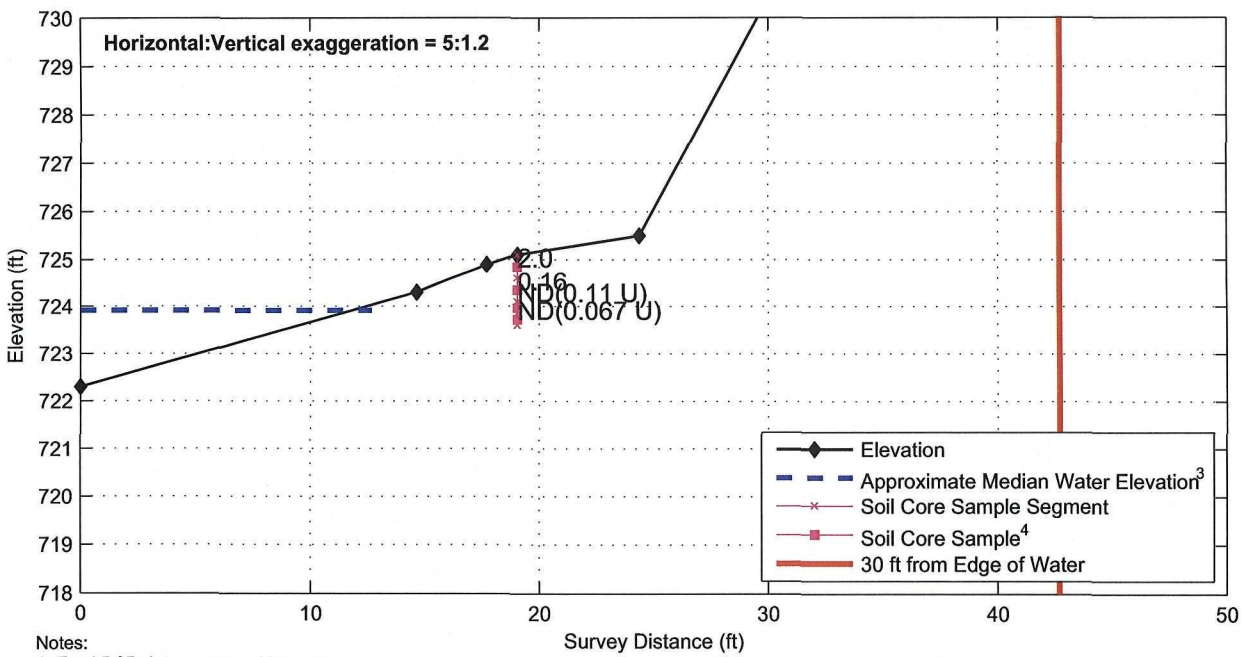
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-32

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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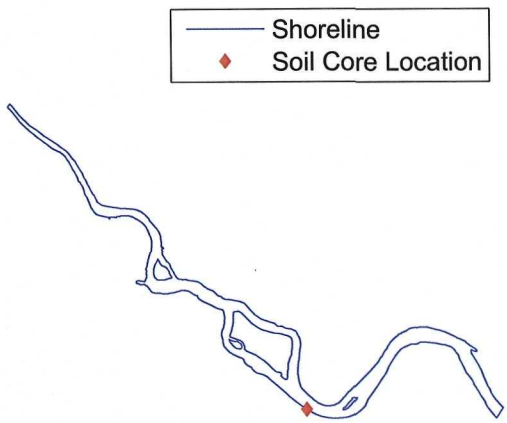
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-33

Site Map



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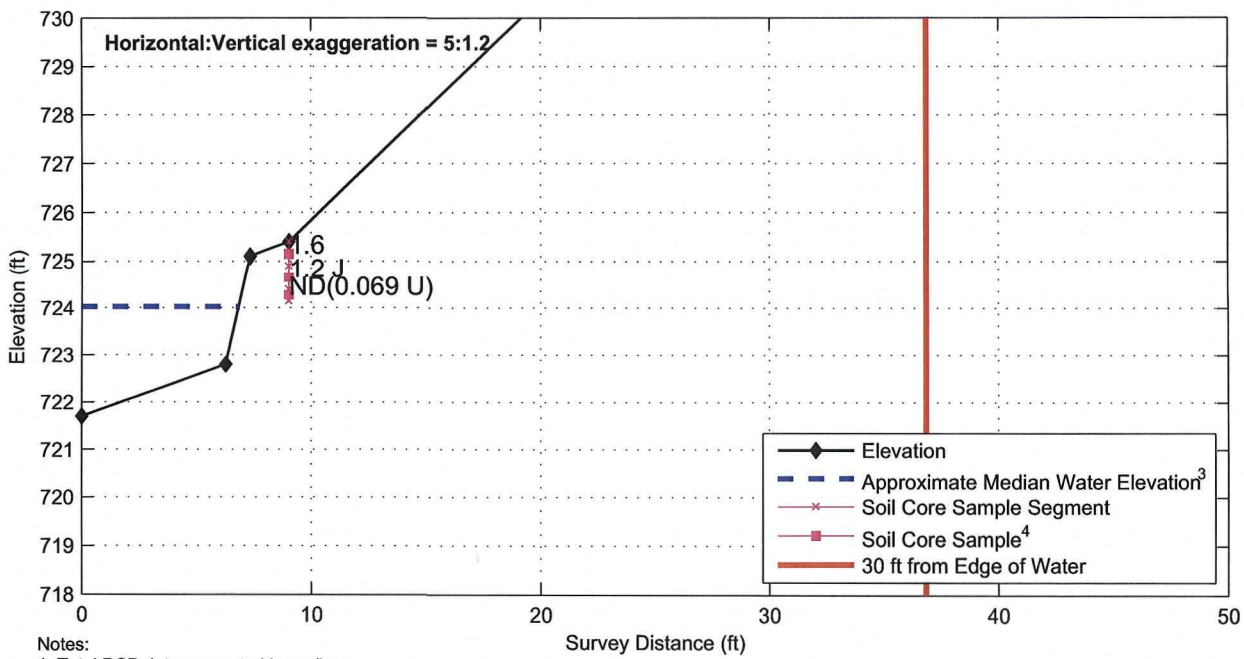

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. *Bank Limit is not presented for Oxbow locations or locations not included in design*

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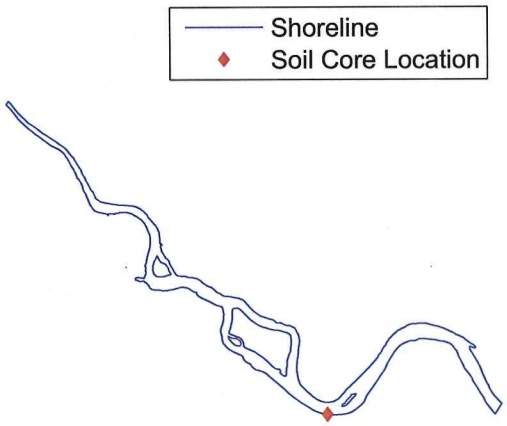
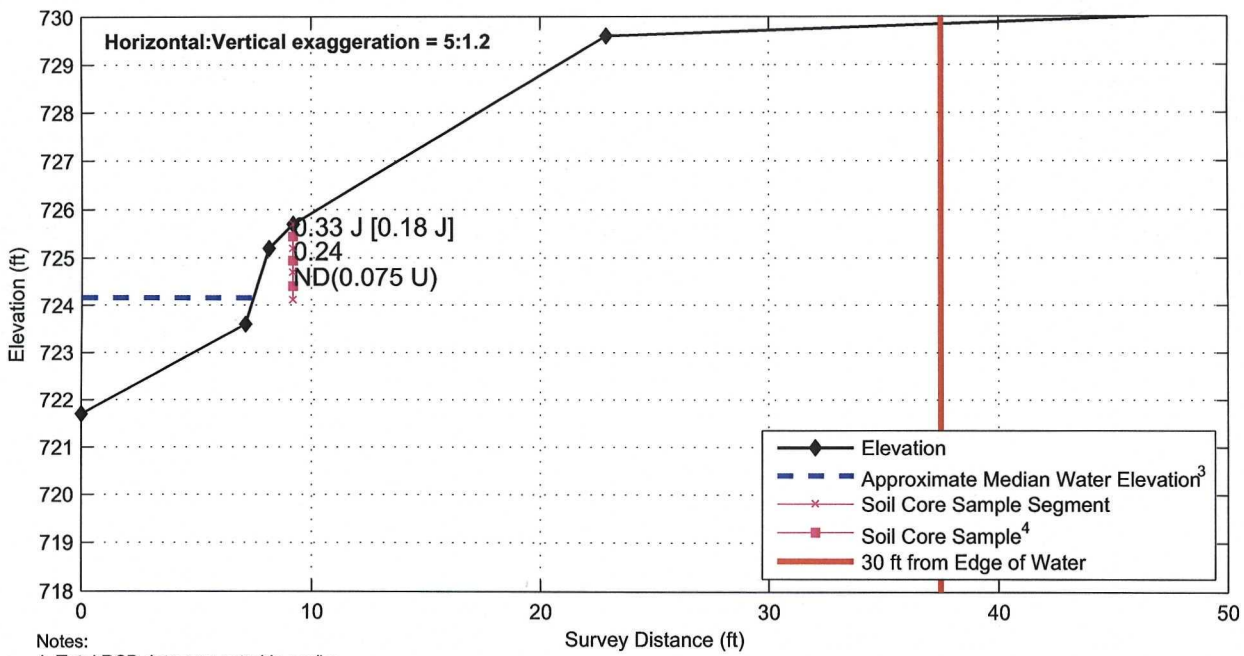
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-34

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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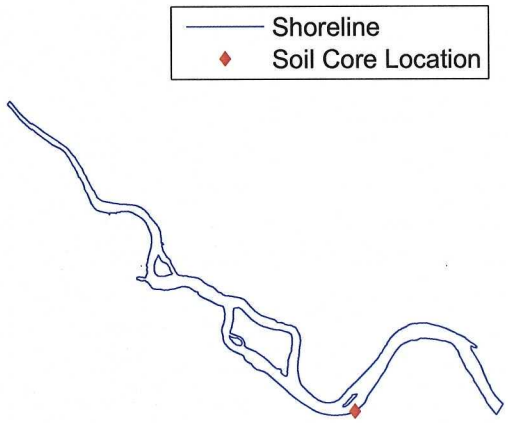
Plainwell No. 2 Bank Profiles
Transect: P2BS-35

Site Map



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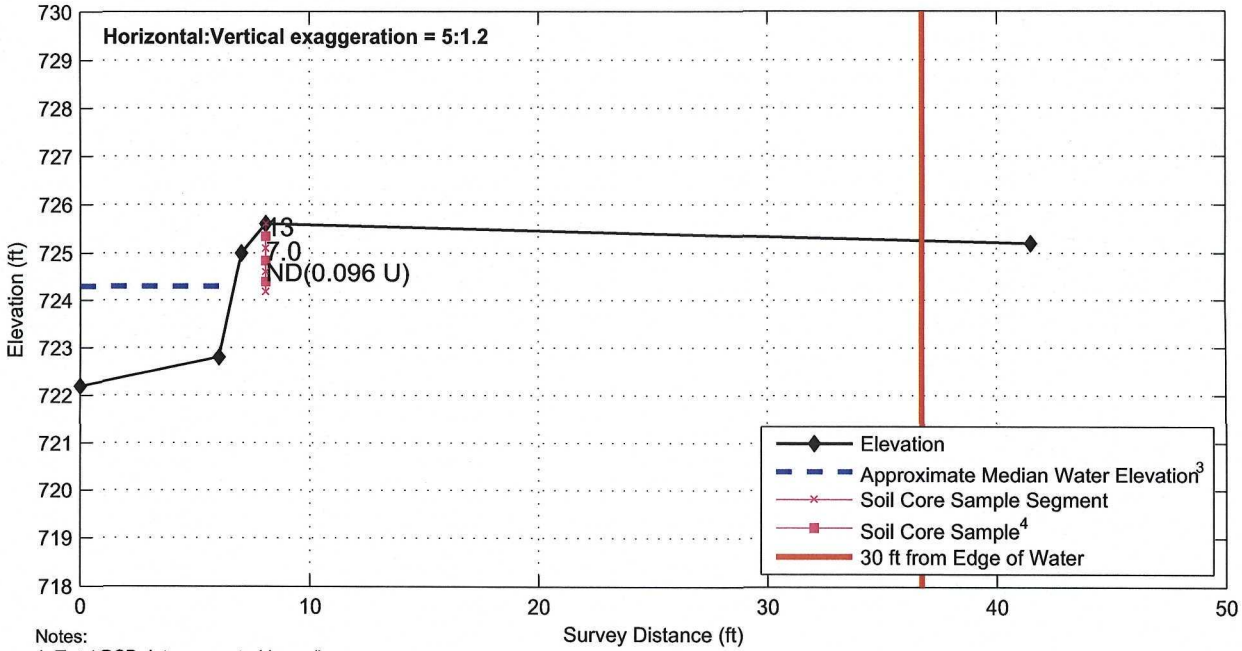

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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10/30/2008
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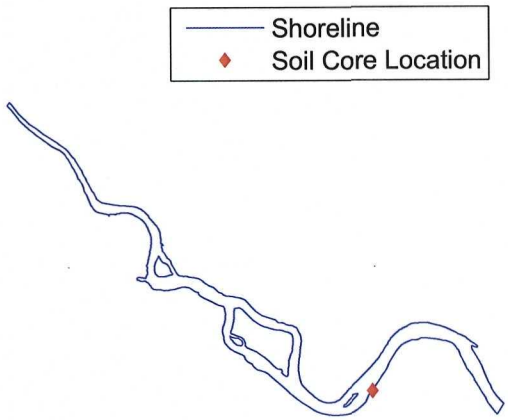
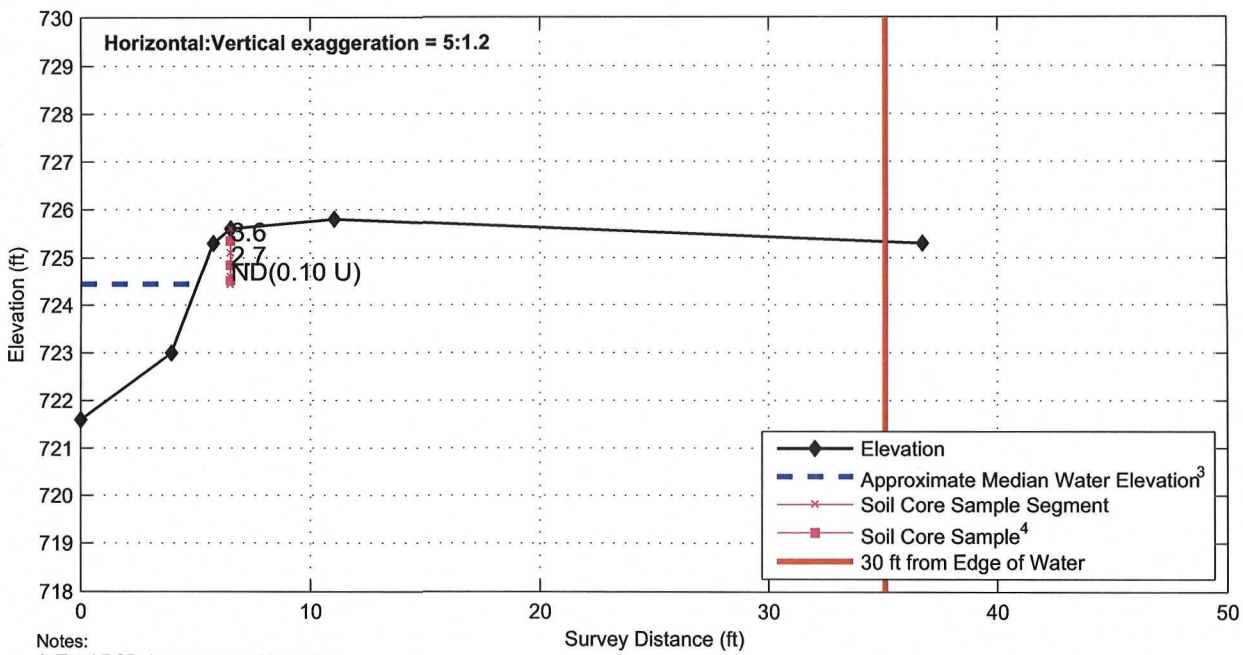
Plainwell No. 2 Bank Profiles
Transect: P2BS-36

Site Map



Bank Photograph



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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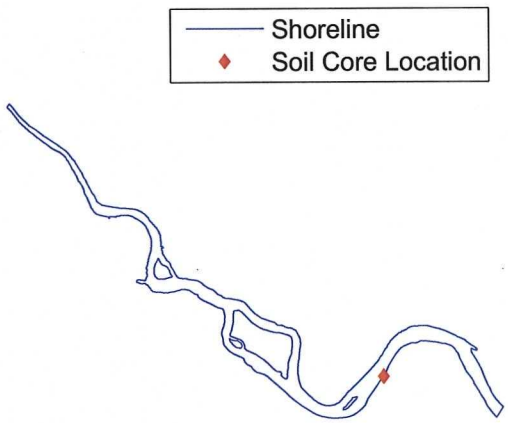
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-37

Site Map



Bank Photograph

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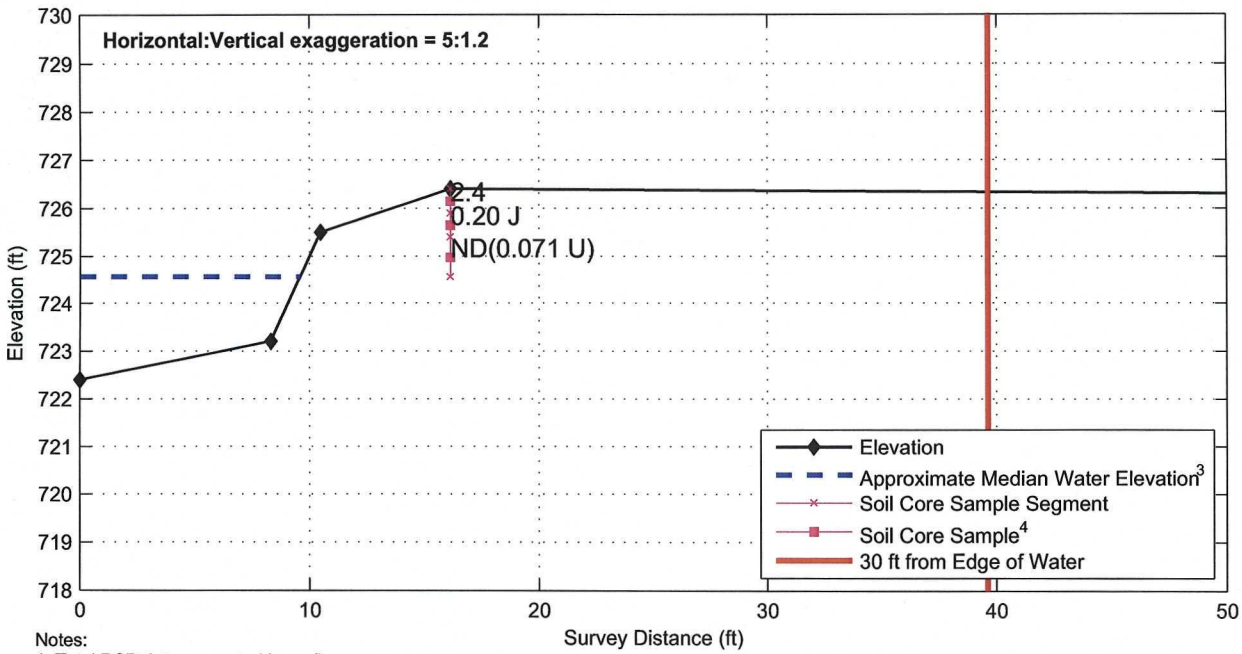

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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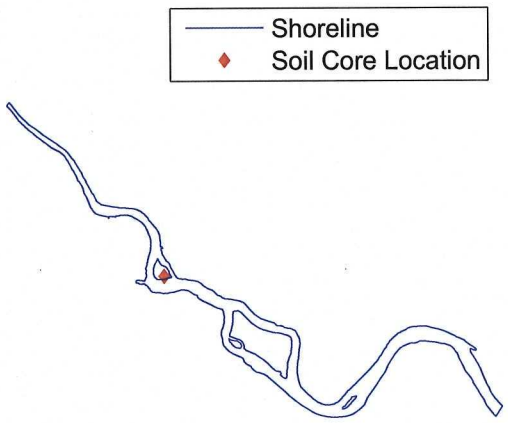
Appendix A

Combined Existing Bank Profiles and PCB Data Plots

Oxbow Area Transects

Plainwell No. 2 Bank Profiles
Transect: P2BN-09

Site Map



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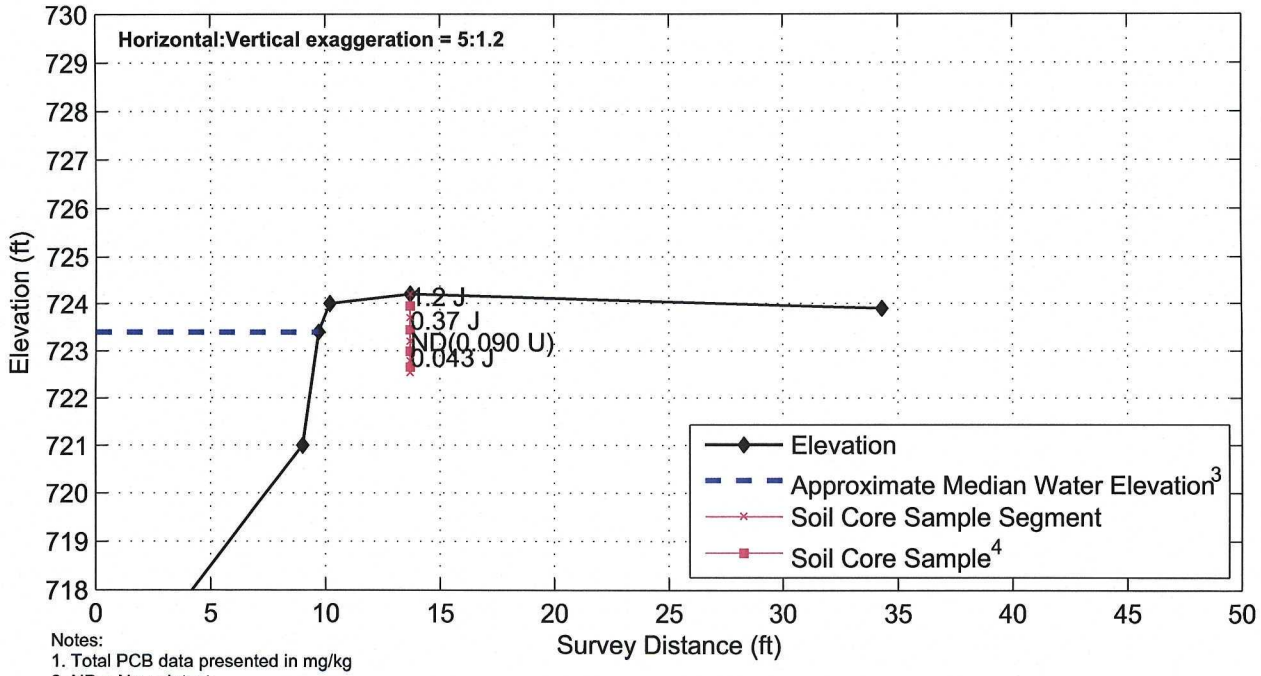

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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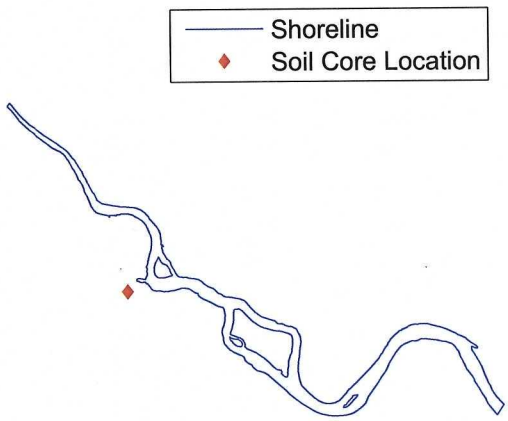
Plainwell No. 2 Bank Profiles
Transect: P2BN-11

Site Map



Bank Photograph

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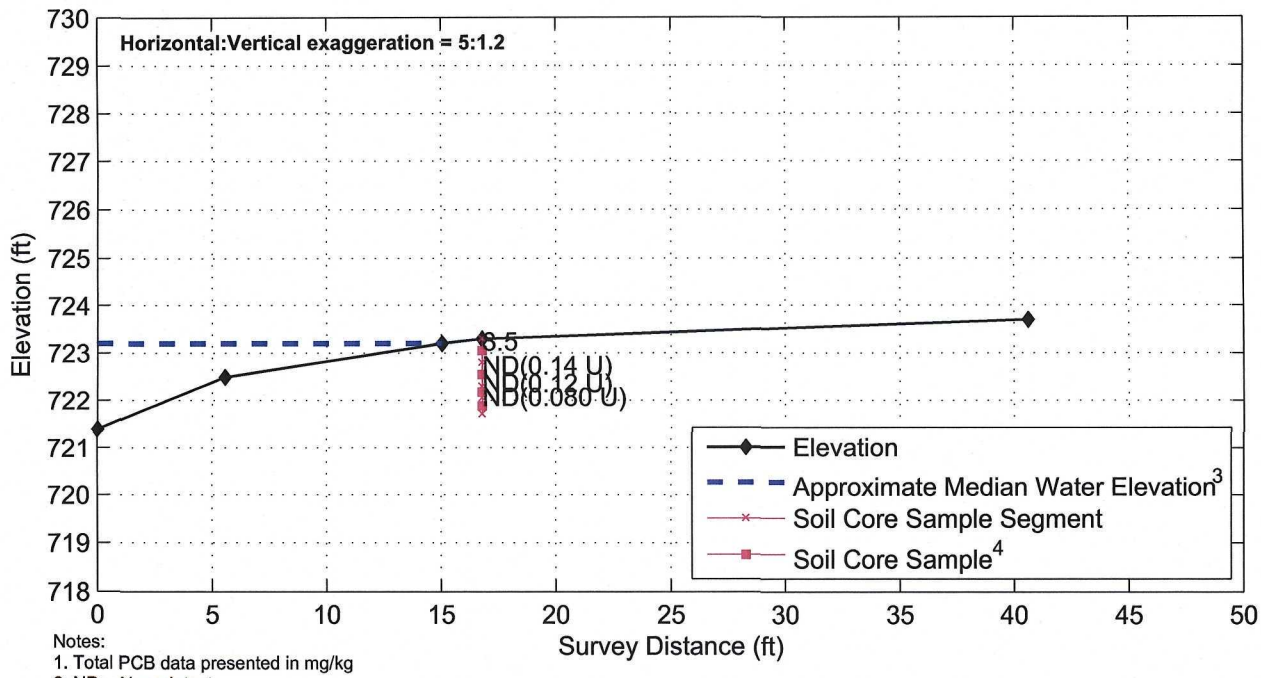

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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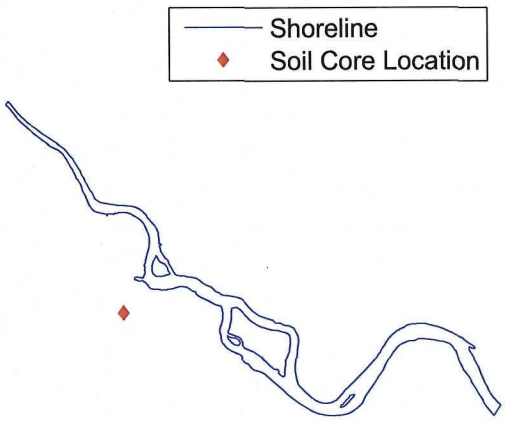
Plainwell No. 2 Bank Profiles
Transect: P2BN-12

Site Map



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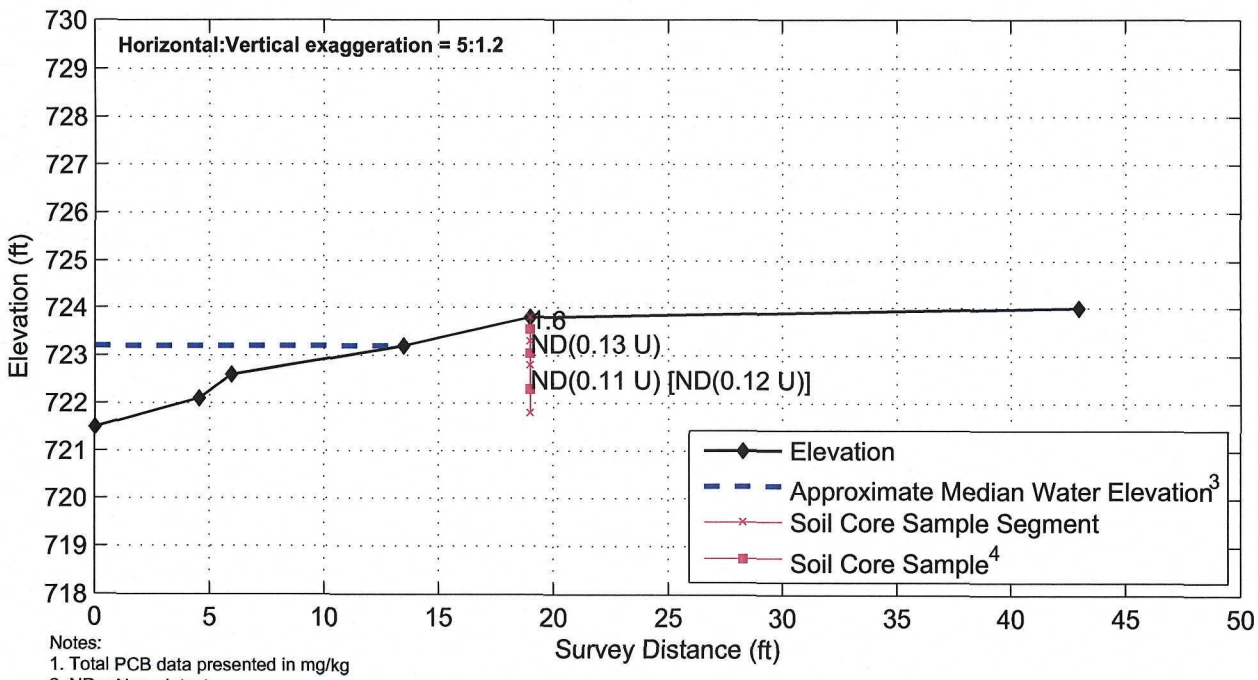

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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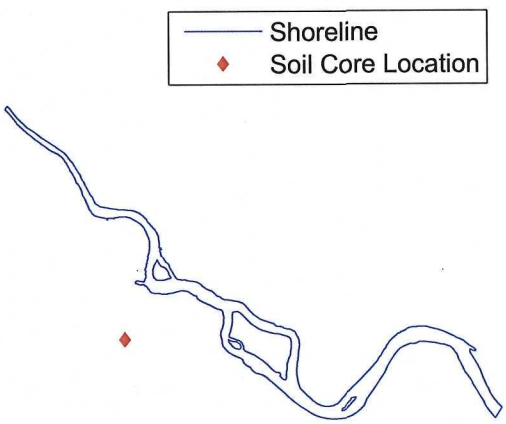
Plainwell No. 2 Bank Profiles
Transect: P2BN-13

Site Map



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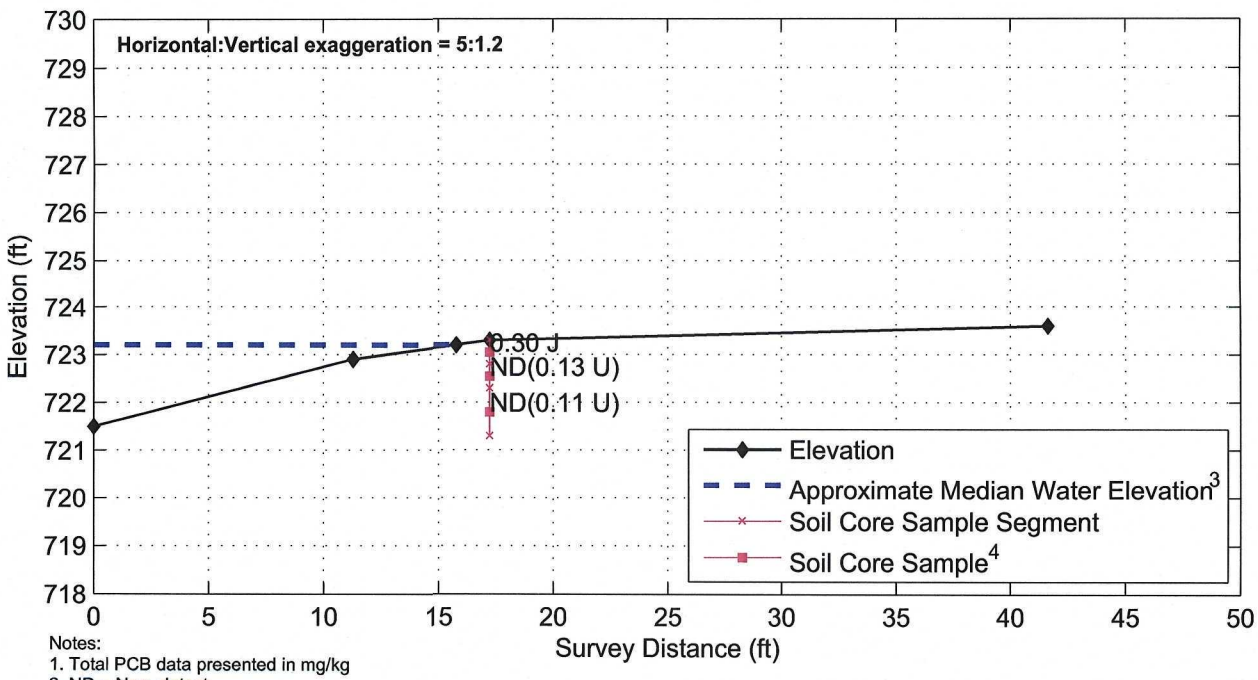

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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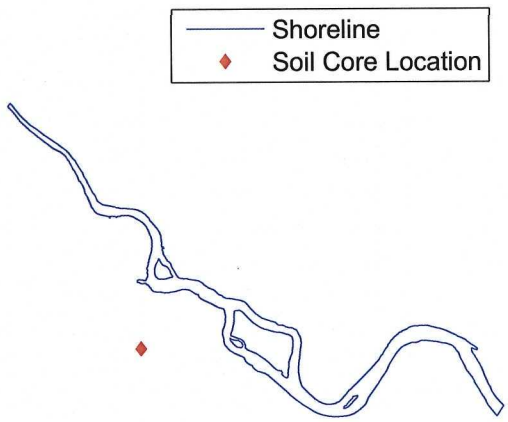
Plainwell No. 2 Bank Profiles
Transect: P2BN-14

Site Map



Bank Photograph

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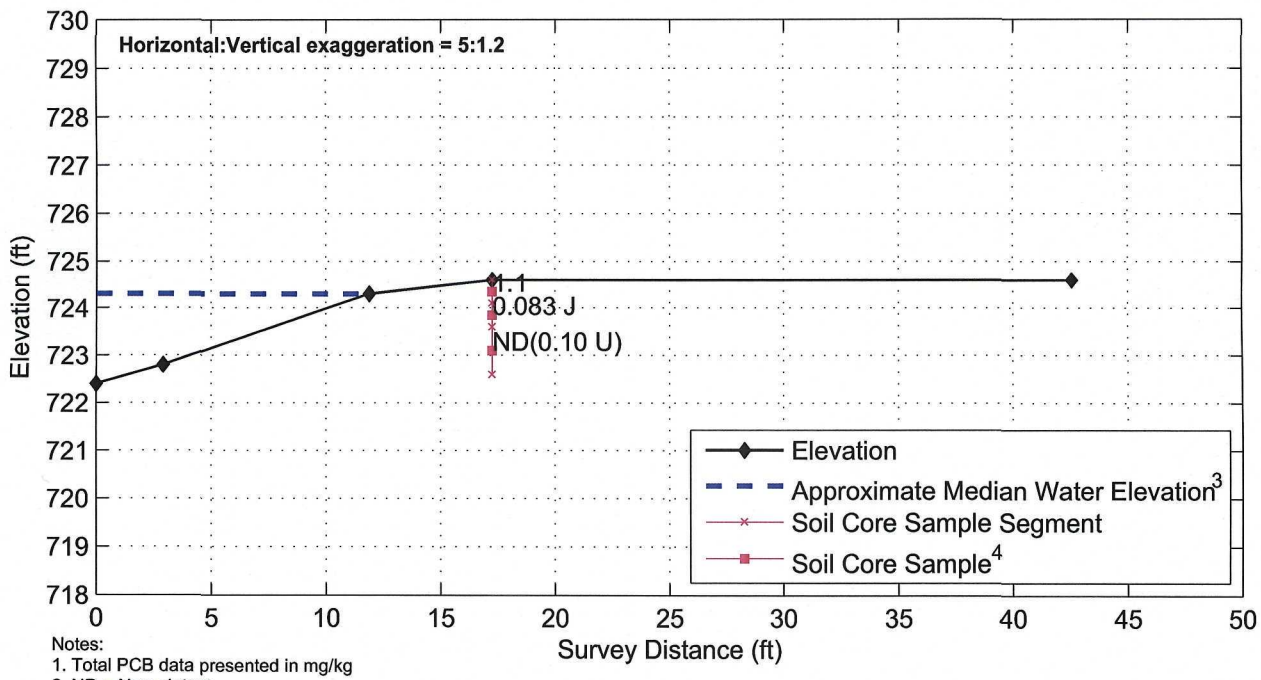

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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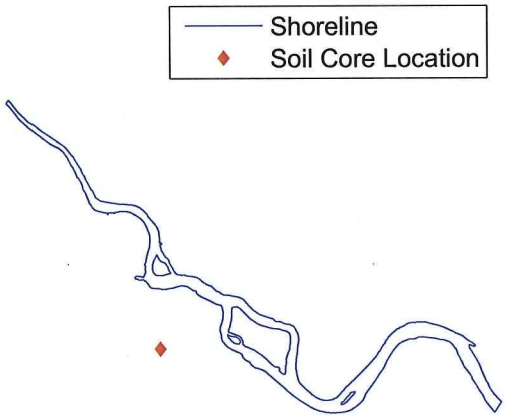
Created by: JDO

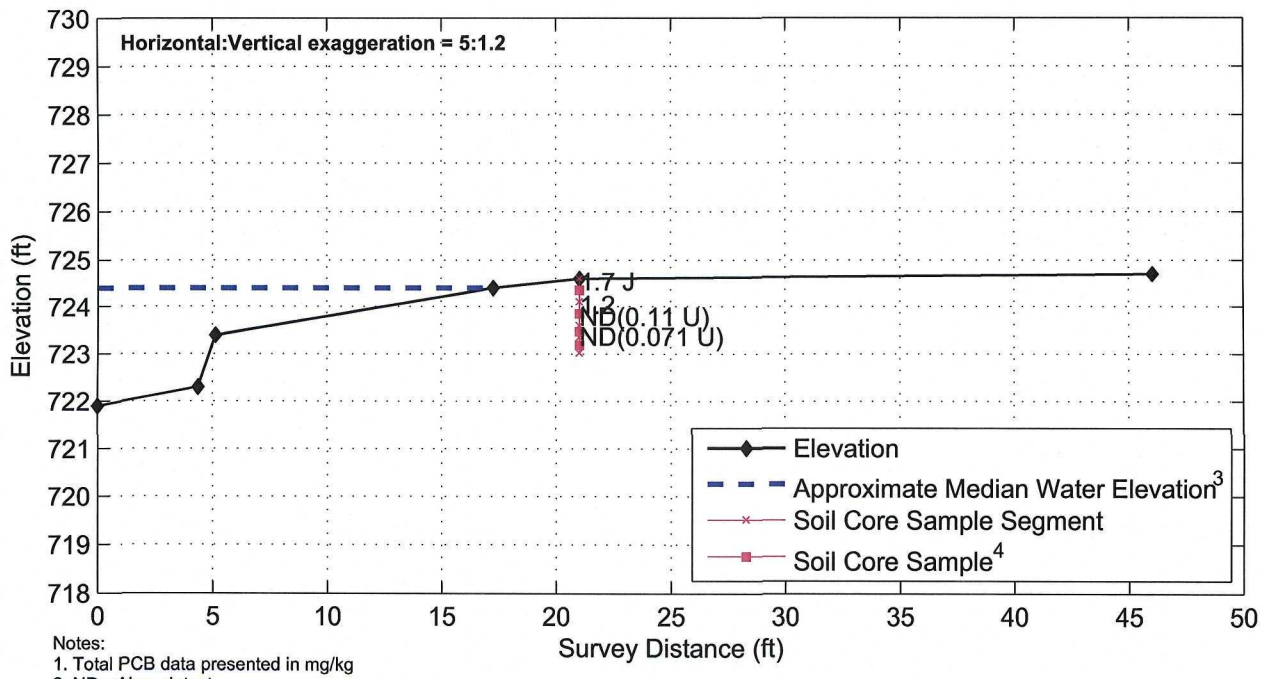
Plainwell No. 2 Bank Profiles
Transect: P2BN-15

Site Map



Bank Photograph

No Photo Available



Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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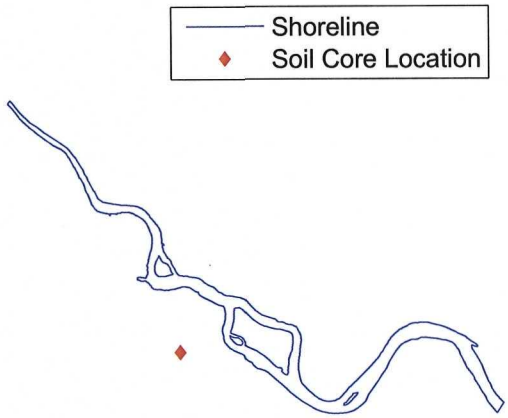
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BN-16

Site Map



Bank Photograph

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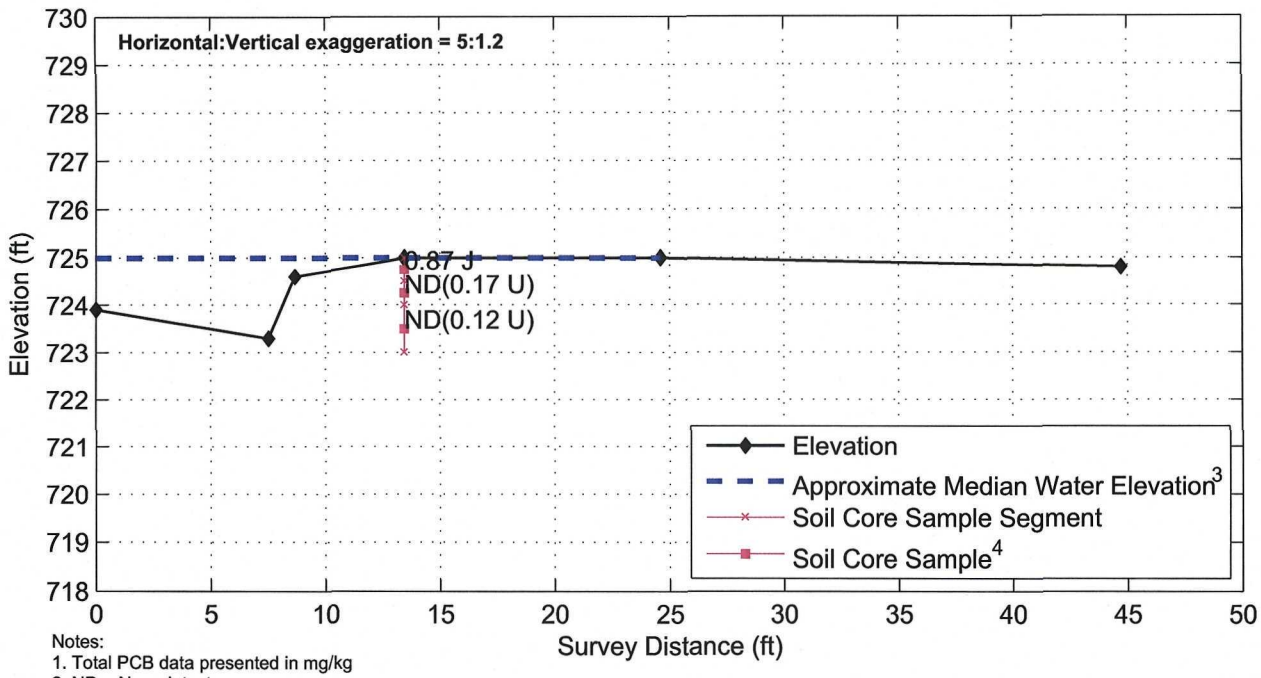

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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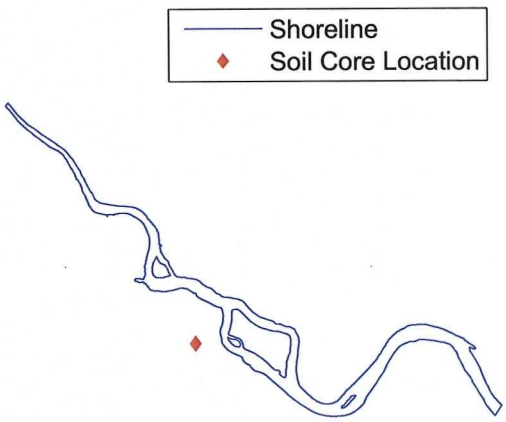
Plainwell No. 2 Bank Profiles
Transect: P2BN-17

Site Map



Bank Photograph

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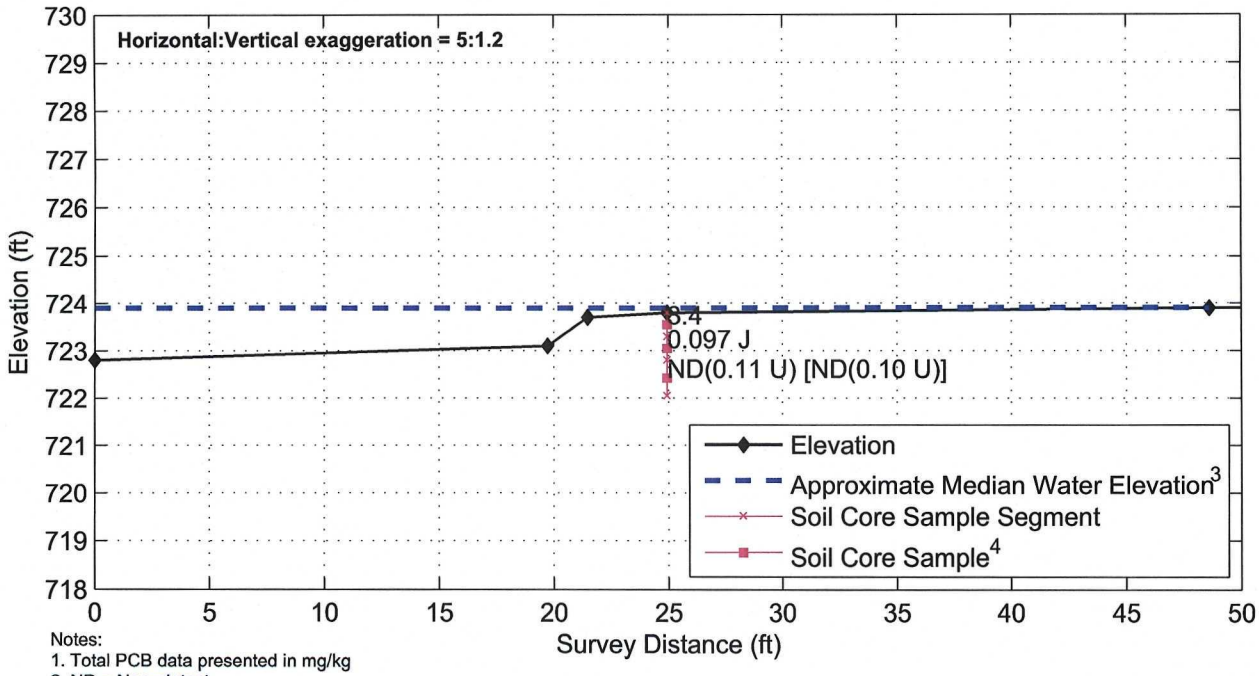

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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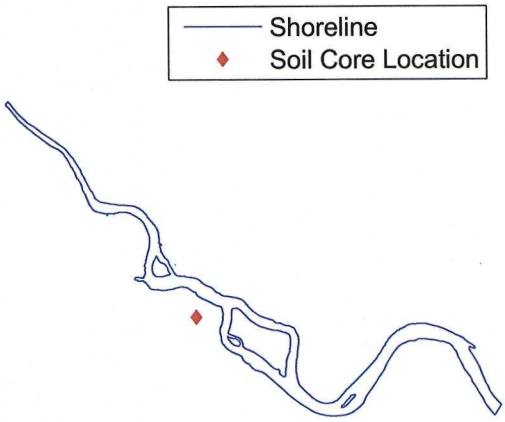
Plainwell No. 2 Bank Profiles
Transect: P2BN-18

Site Map



Bank Photograph

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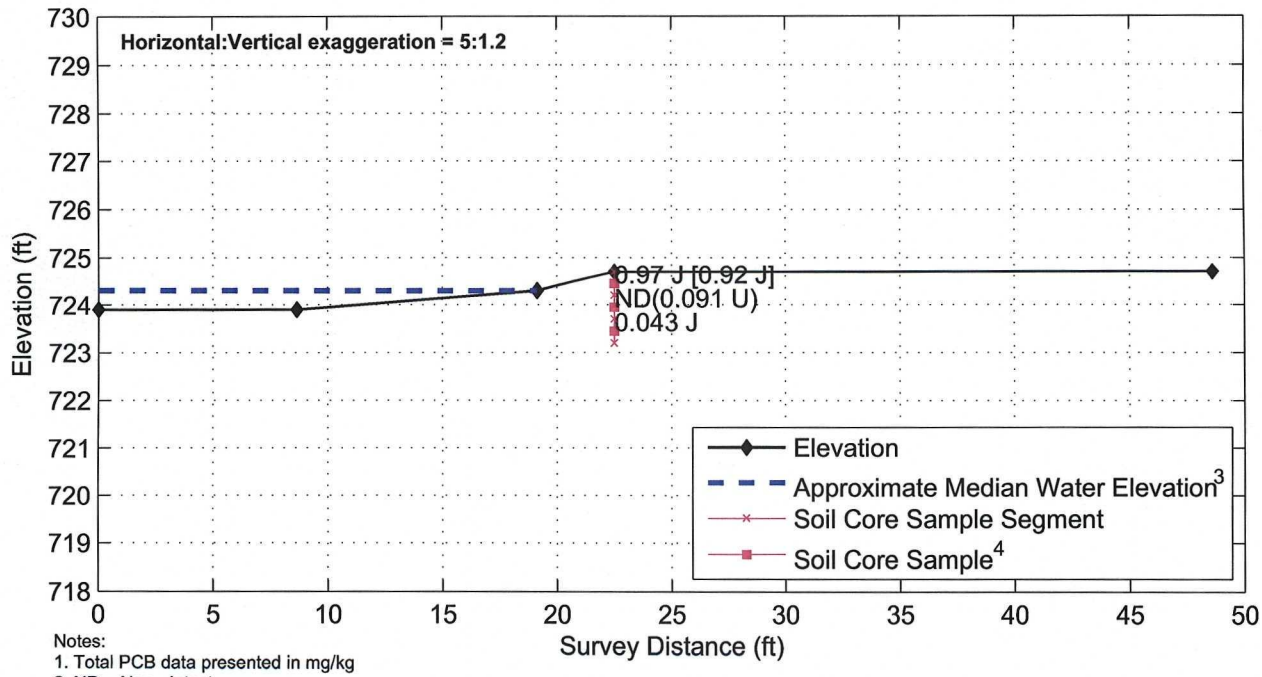

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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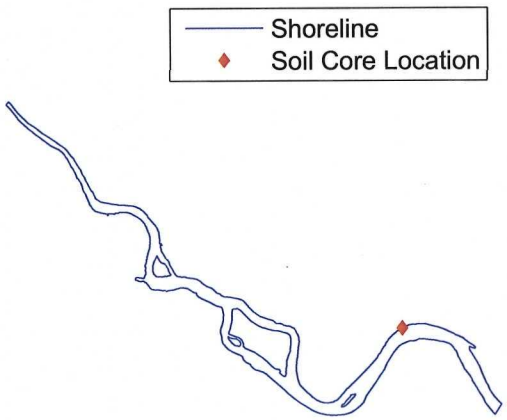
Plainwell No. 2 Bank Profiles
Transect: P2BN-39

Site Map



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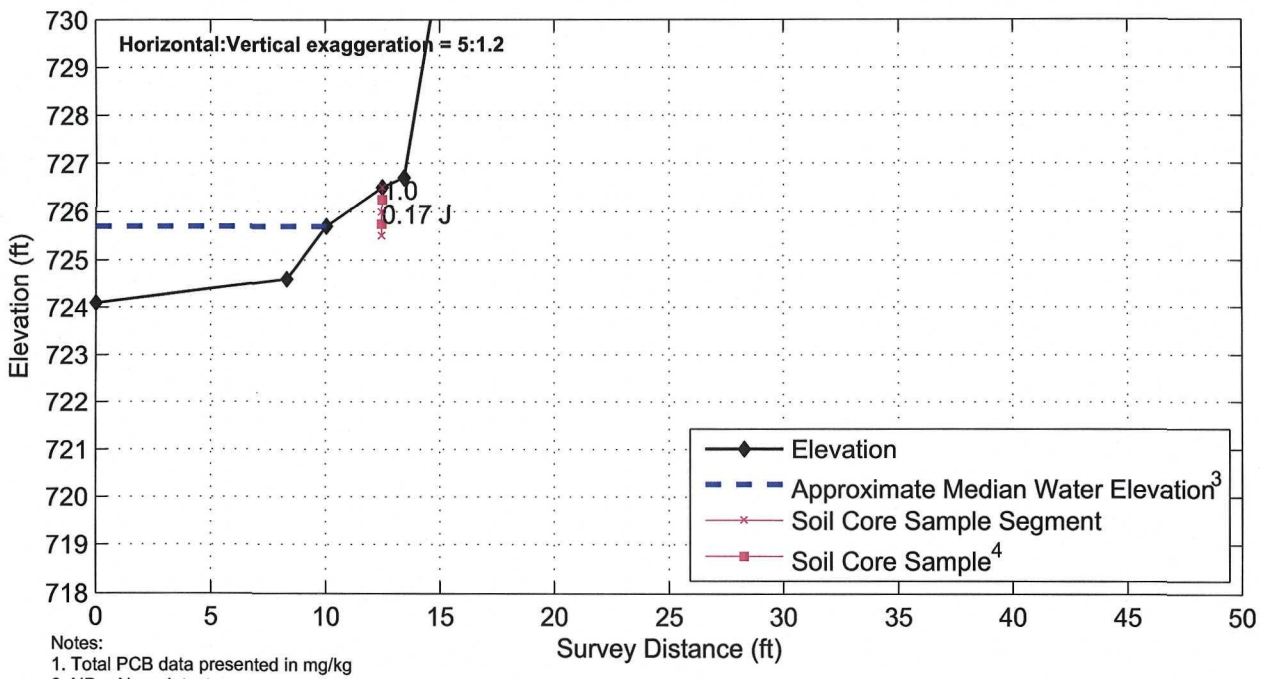

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1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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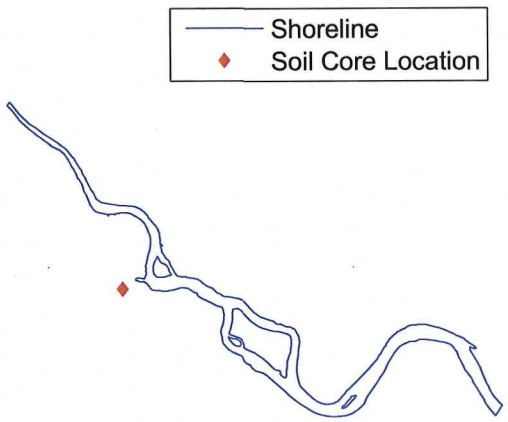
Plainwell No. 2 Bank Profiles
Transect: P2BS-11

Site Map



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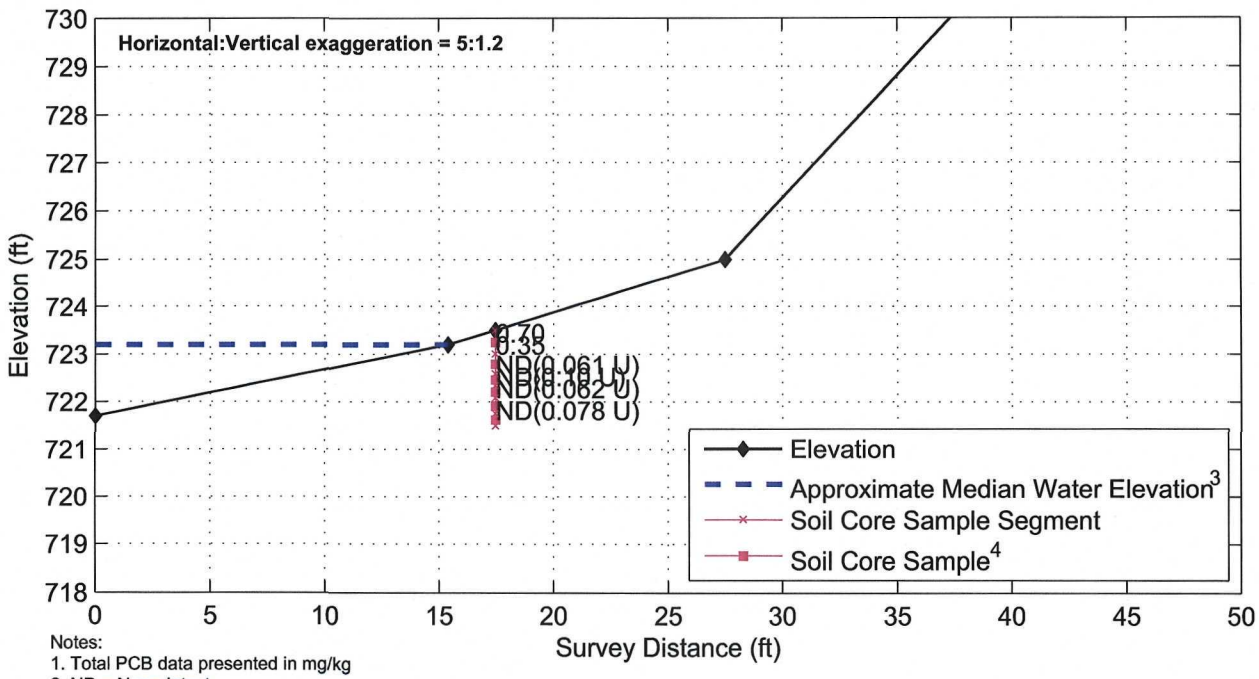

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2. ND = Non-detect
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4. Boring sample elevation presented as mid-point of sample depth interval
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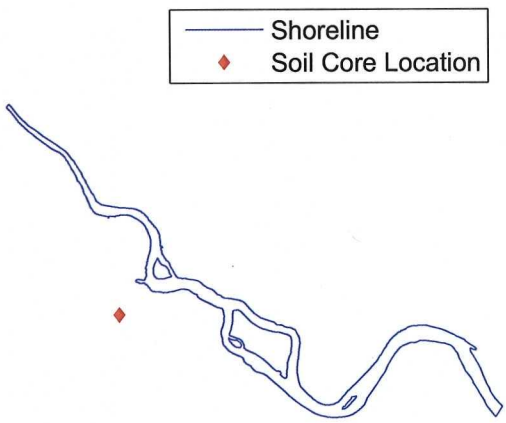
Plainwell No. 2 Bank Profiles
Transect: P2BS-12

Site Map



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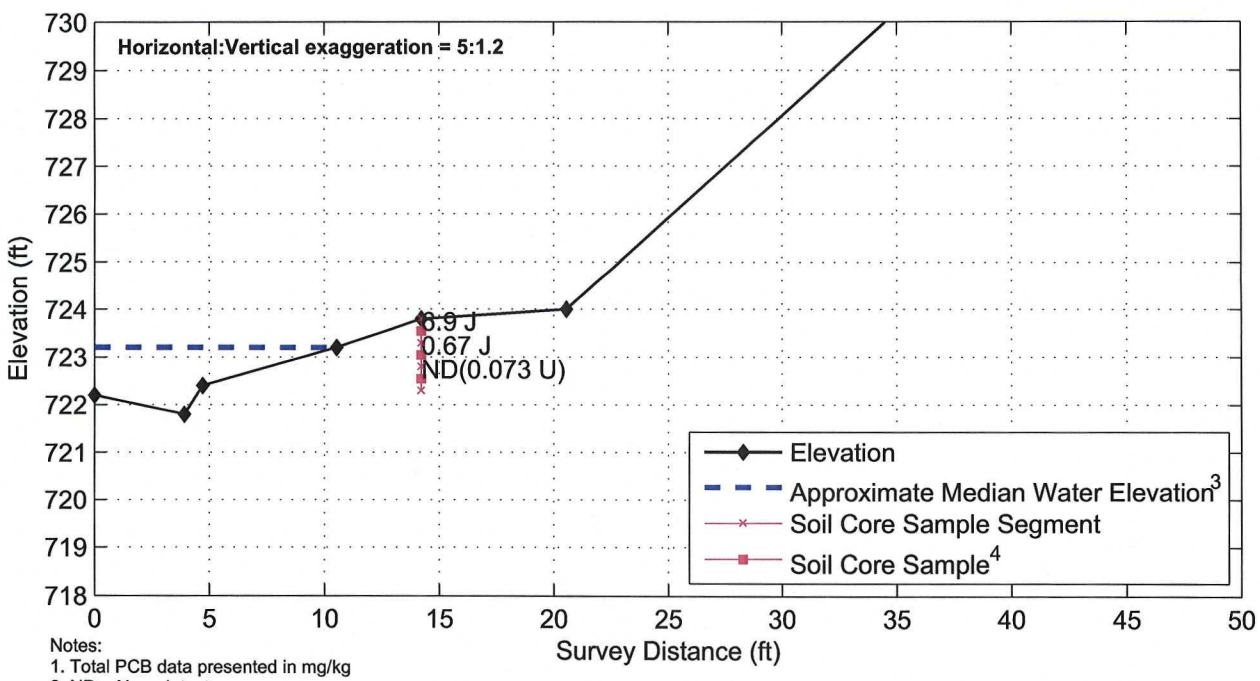

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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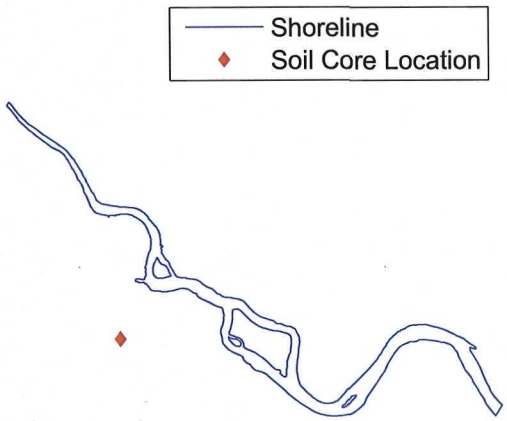
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-13

Site Map



Bank Photograph

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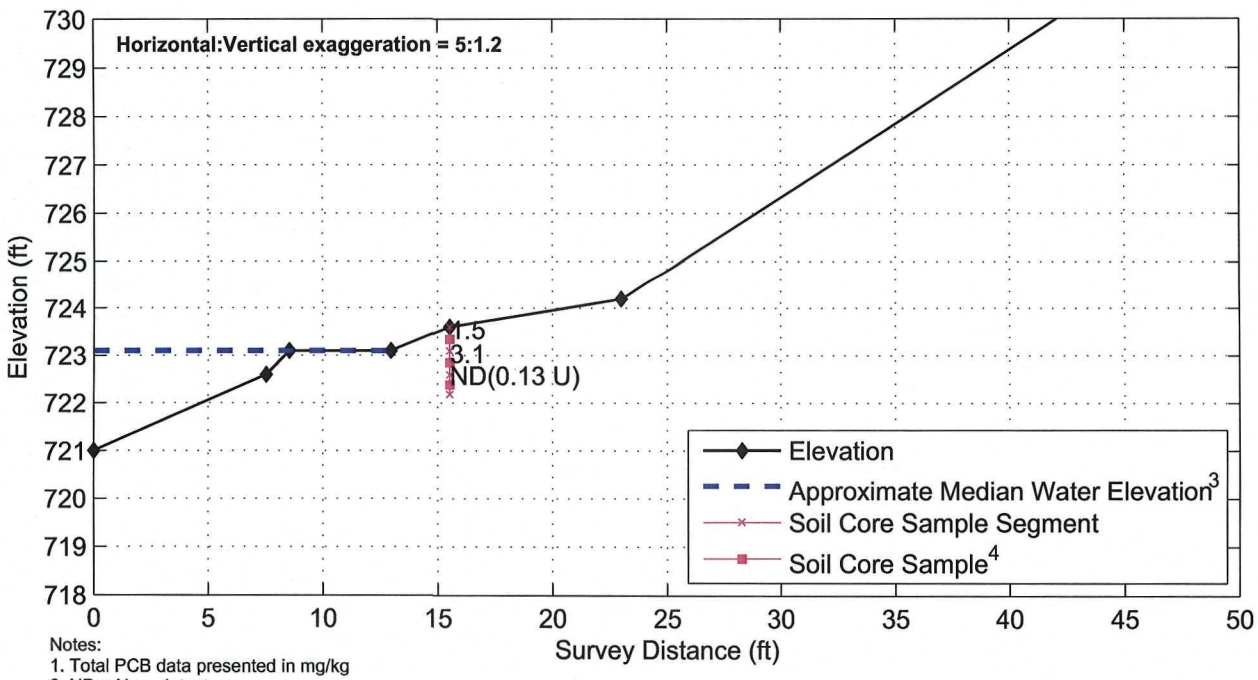

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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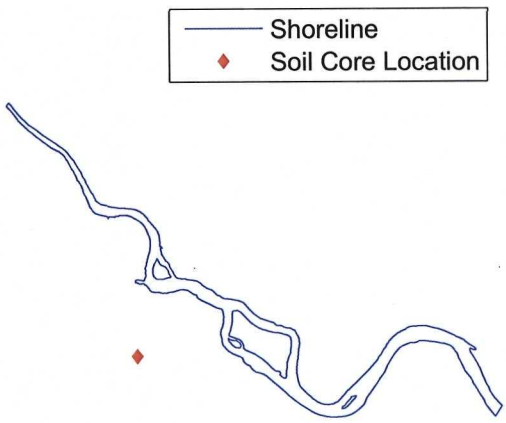
Plainwell No. 2 Bank Profiles
Transect: P2BS-14

Site Map



Bank Photograph

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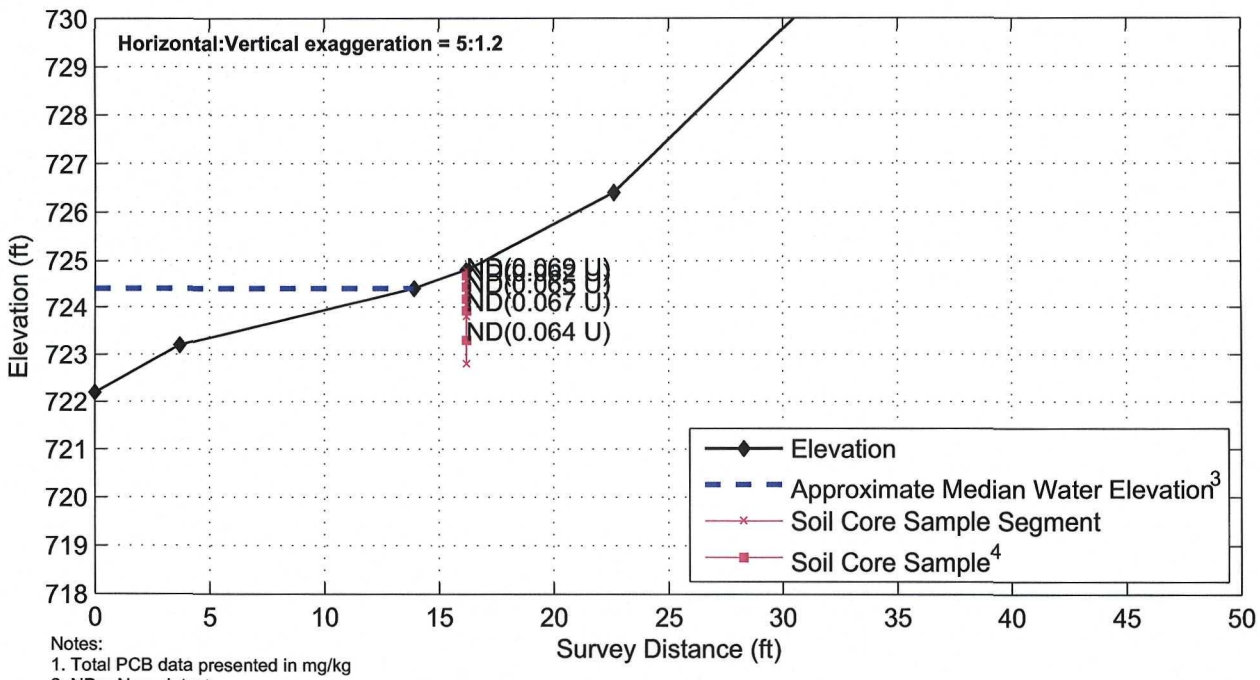

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

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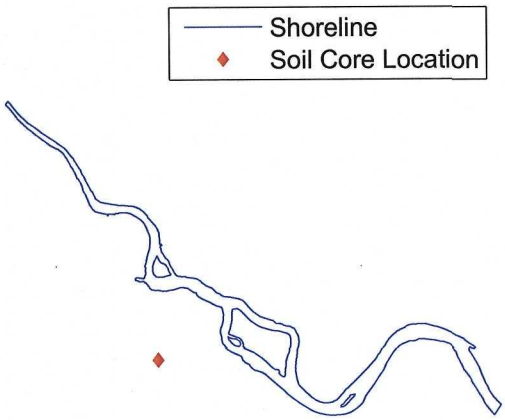
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-15

Site Map



Bank Photograph

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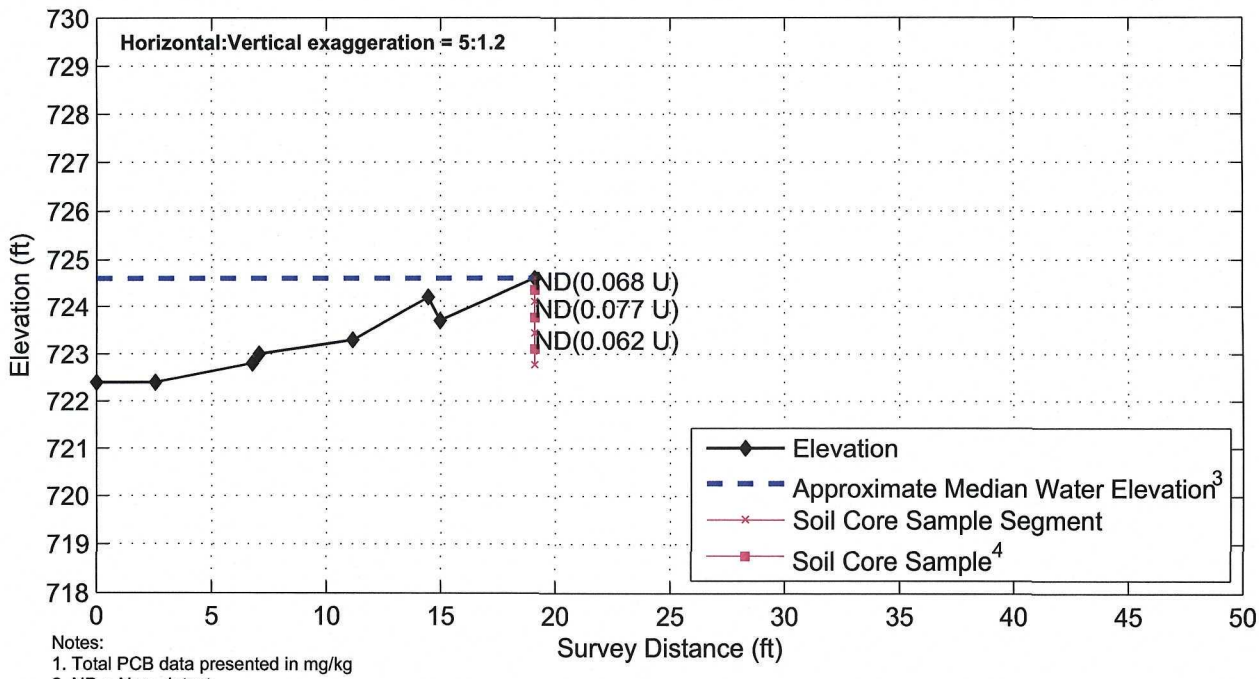
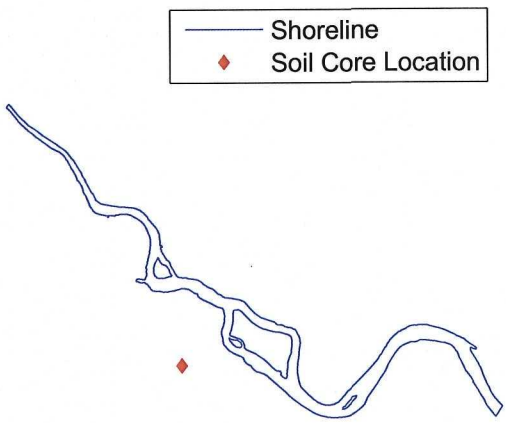


Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

B0064539.0000.00500
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-16

Site Map



Bank Photograph

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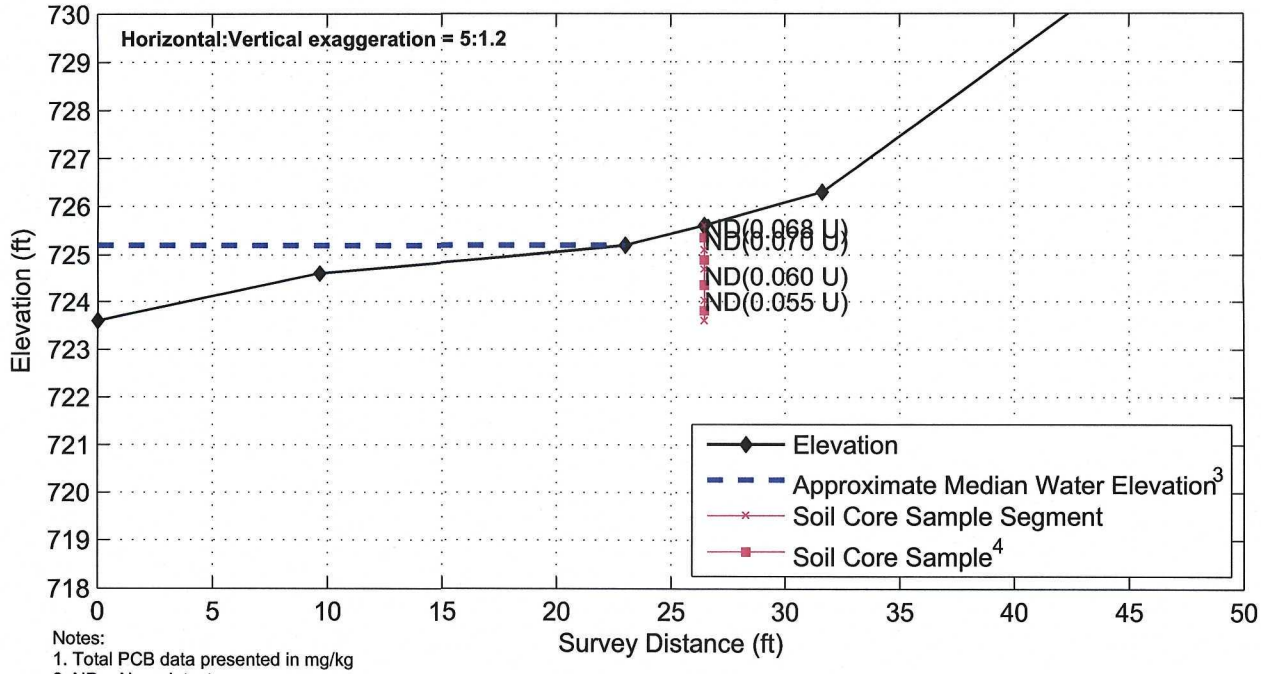
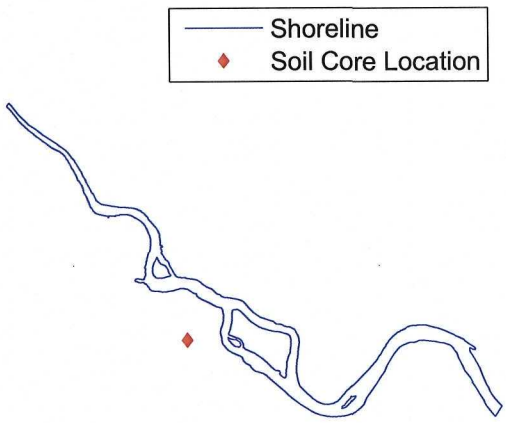


Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

B0064539.0000.00500
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-17

Site Map



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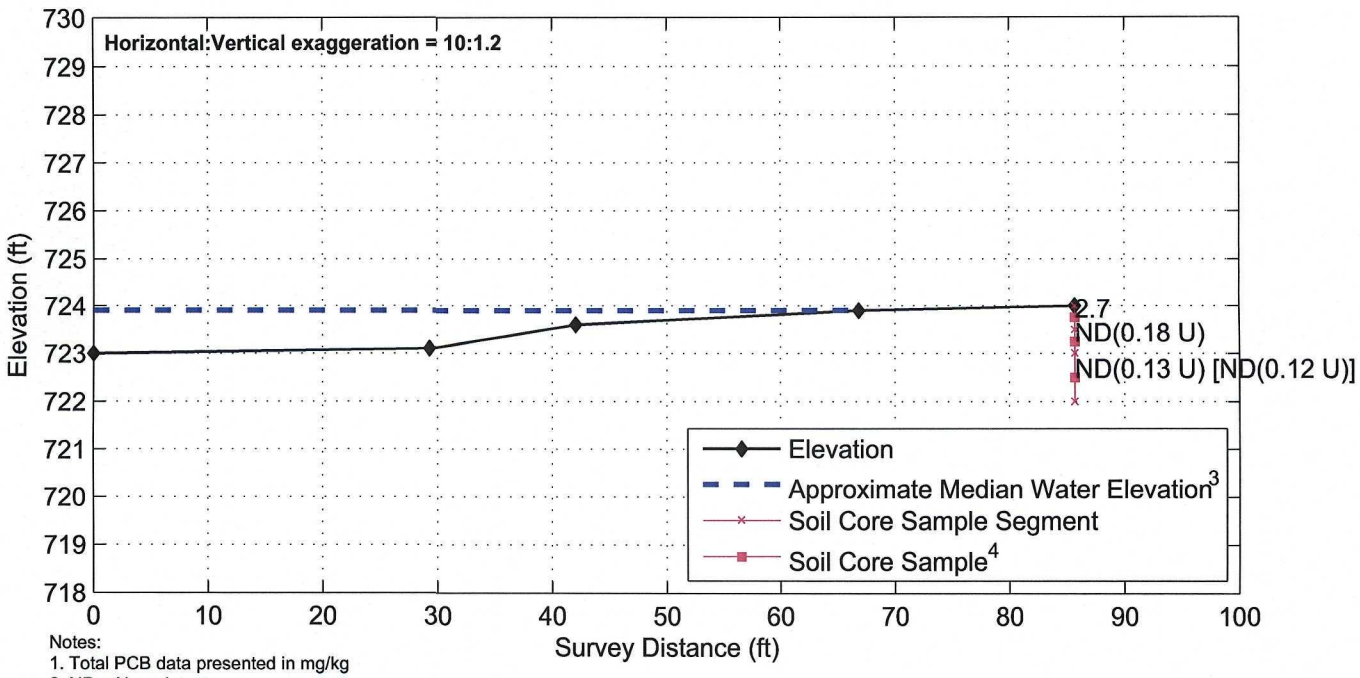
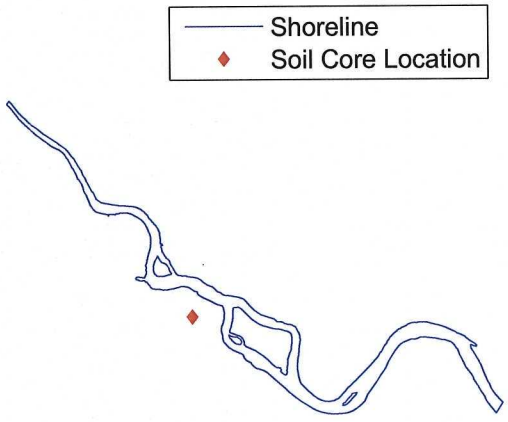


Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. *Bank Limit is not presented for Oxbow locations or locations not included in design*

B0064539.0000.00500
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-18

Site Map



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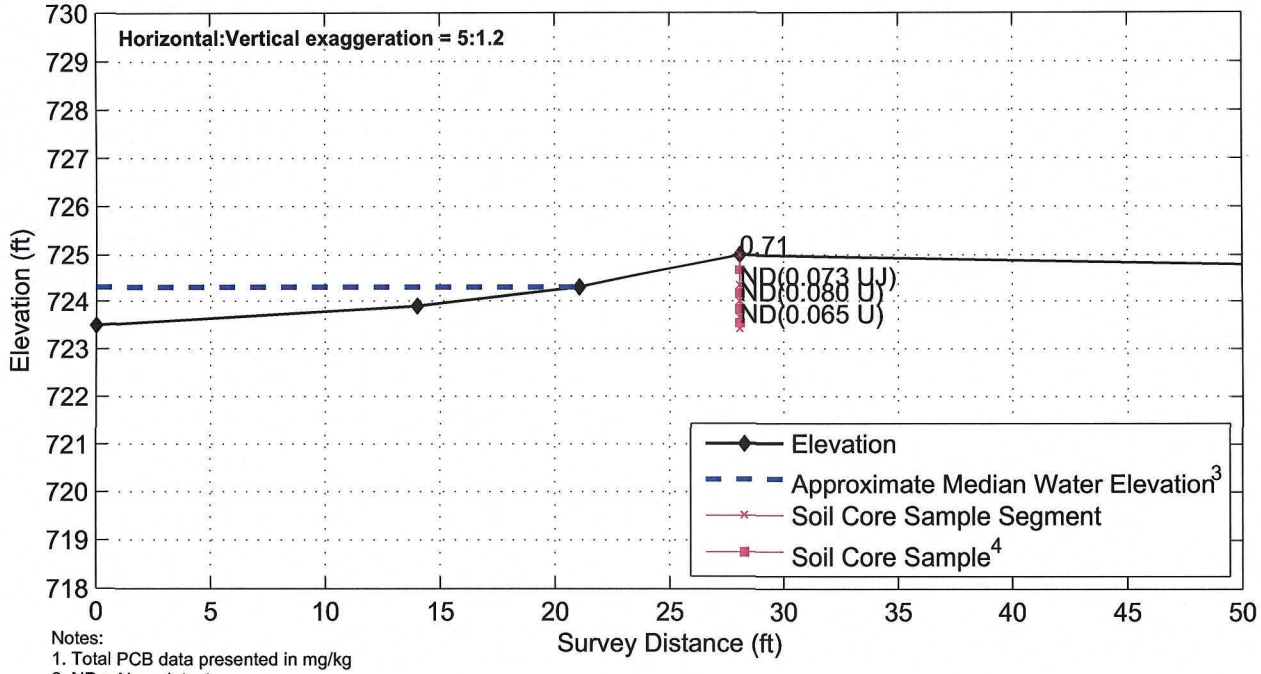

Notes:
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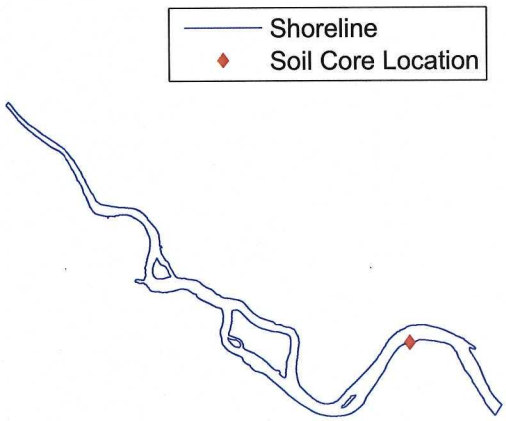
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

B0064539.0000.00500
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-39

Site Map



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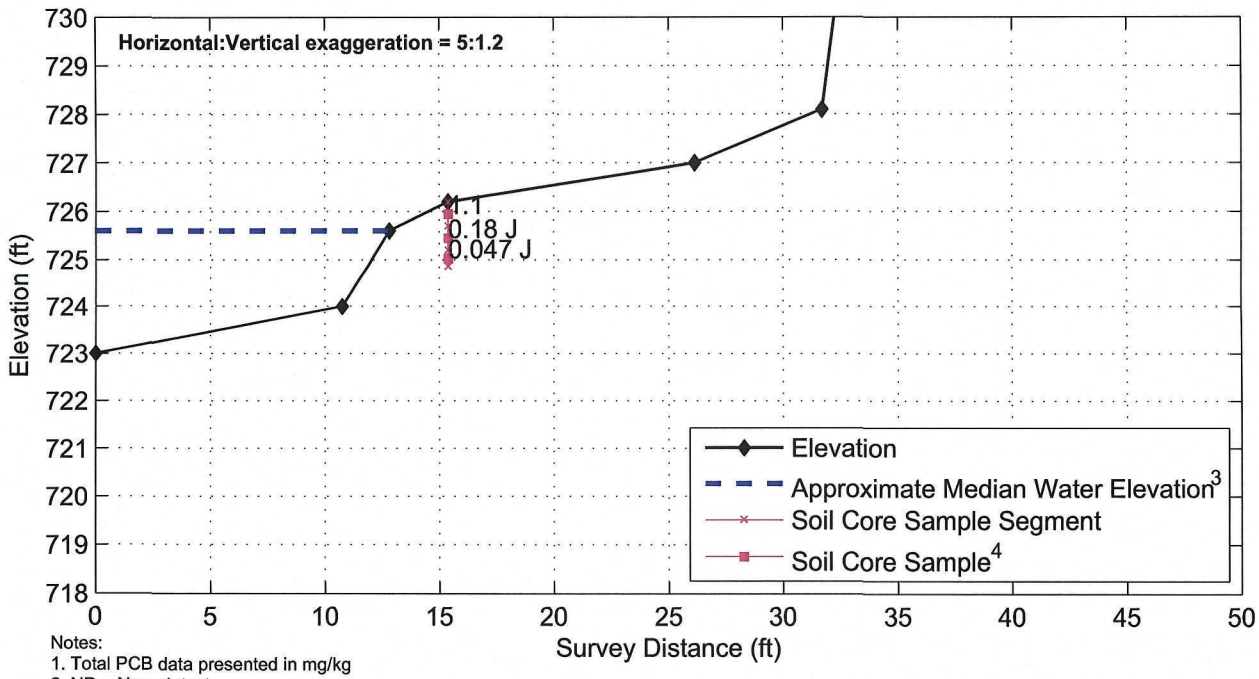
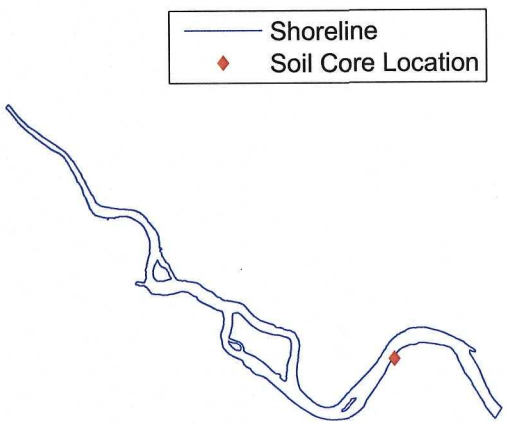


Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

B0064539.0000.00500
10/30/2008
Created by: JDO

Plainwell No. 2 Bank Profiles
Transect: P2BS-38

Site Map



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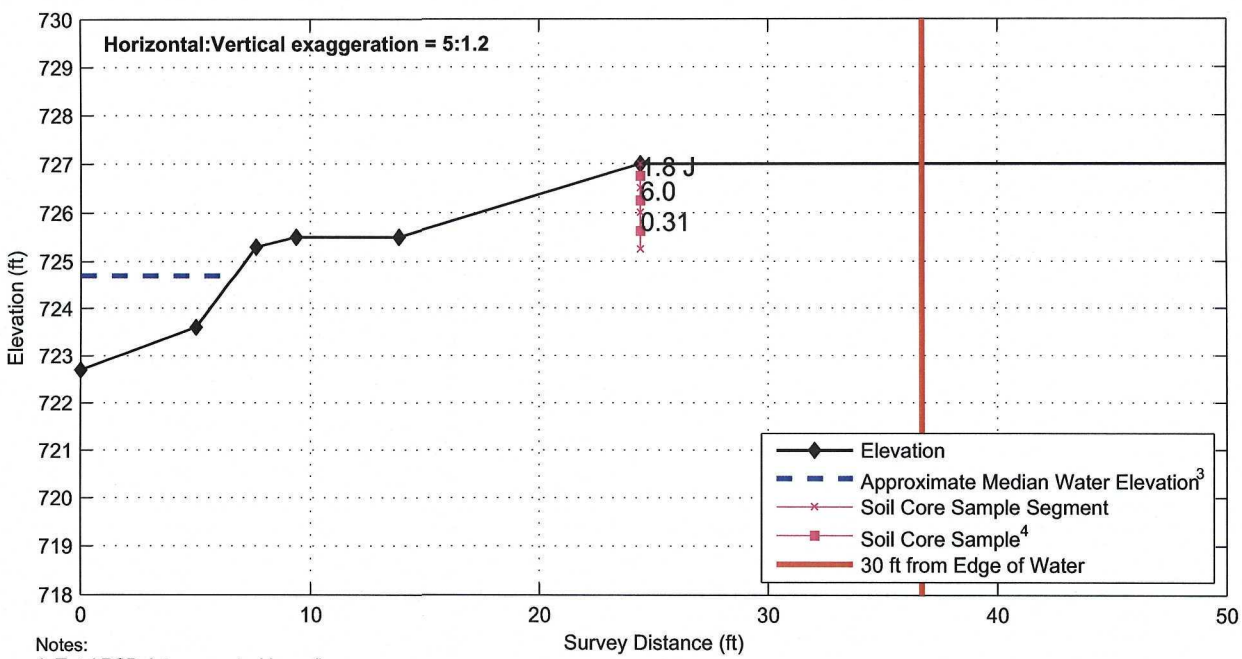

Notes:
1. Total PCB data presented in mg/kg
2. ND = Non-detect
3. Median elevation determined from on-site staff gage and USGS flow data
4. Boring sample elevation presented as mid-point of sample depth interval
5. Bank Limit is not presented for Oxbow locations or locations not included in design

B0064539.0000.00500
10/30/2008
Created by: JDO

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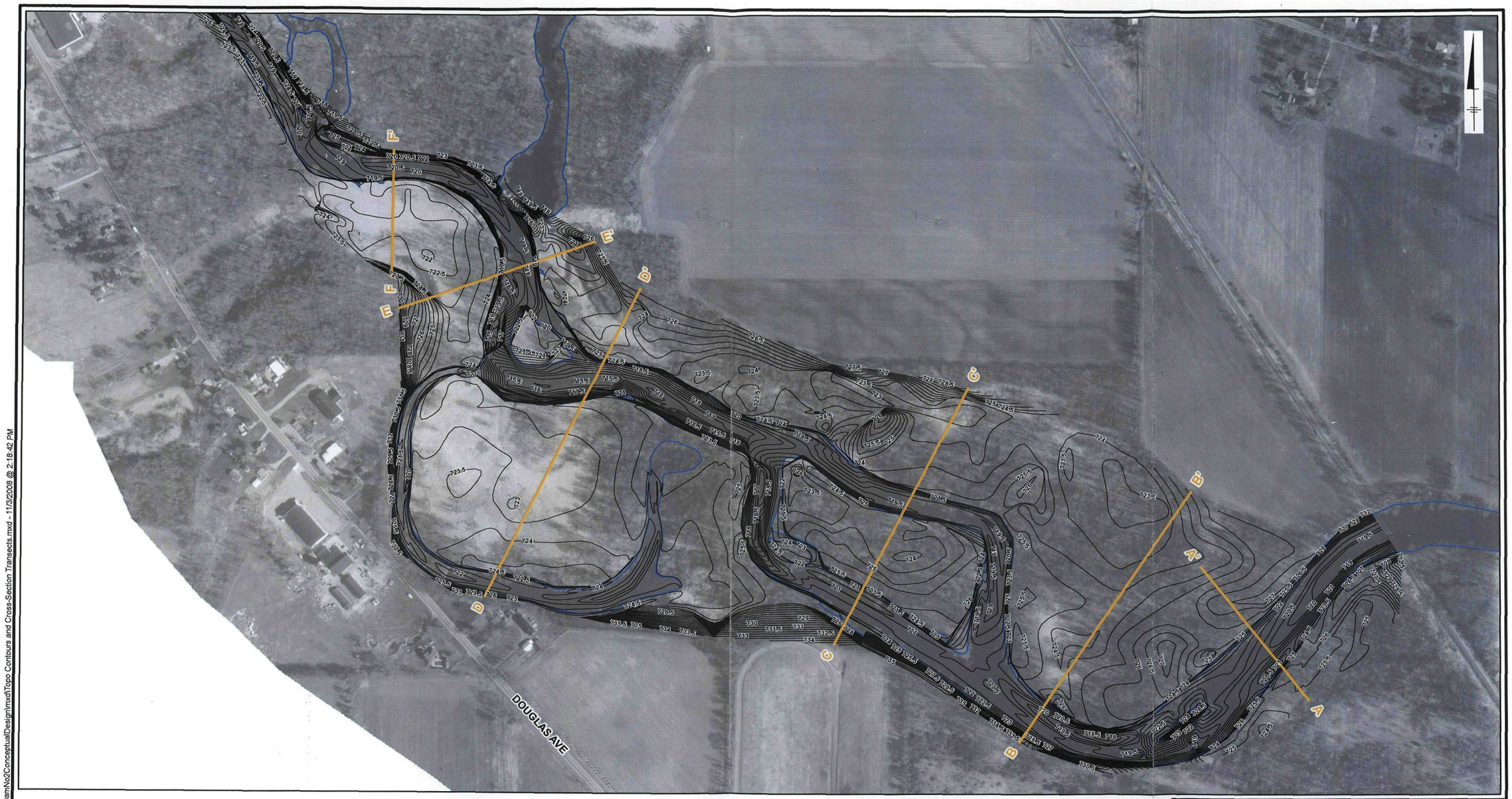
Appendix B

Topographic Map and Floodplain Elevation Cross-Sections



LEGEND:

- CROSS-SECTION TRANSECT
- TOPOGRAPHIC CONTOUR (0.5 FT)
- SHORELINE (APPROXIMATE)

0 400 800 Feet

GRAPHIC SCALE

NOTES:

1. TOPOGRAPHIC CONTOURS CREATED FROM DIGITAL TERRAIN MODEL DEVELOPED FROM SURVEY DATA COLLECTED DURING FIELD WORK IN 1993, 2000, 2007, AND 2008, INCLUDING SEDIMENT AND SOIL SAMPLE COLLECTION, TRANSECT SURVEYS, AND PROBING ACTIVITIES.
2. ELEVATIONS REPORTED IN FEET REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

PLAINWELL NO. 2 DAM AREA TOPOGRAPHIC CONTOURS AND CROSS-SECTION TRANSECTS

ARCADIS

APPENDIX **B**

ROC-40 EAL SYR-90 MTK
KRSG (64539.00500)
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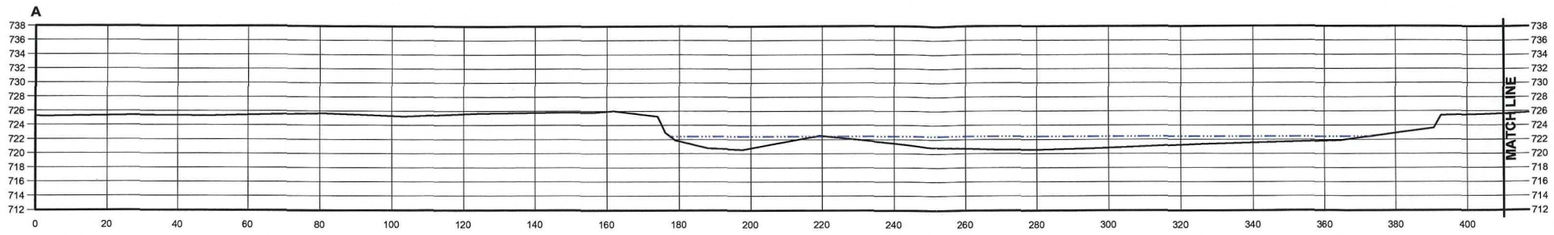

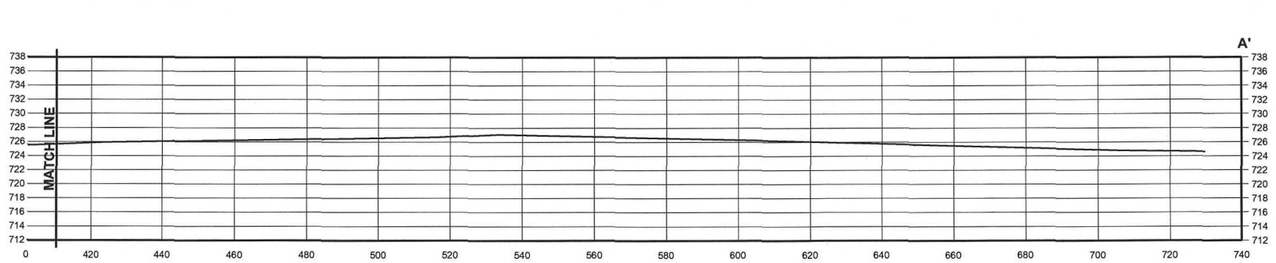

CROSS-SECTION A-A'

0 20' 40'
HORIZONTAL GRAPHIC SCALE

0 10' 20'
VERTICAL GRAPHIC SCALE

LEGEND:

- SURFACE WATER
- TOPOGRAPHIC PROFILE

NOTES:

1. TOPOGRAPHIC PROFILE DISPLAYED WITH 2X VERTICAL EXAGGERATION.
2. ELEVATIONS REPORTED IN FEET REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC/PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CROSS-SECTION A-A'

ARCADIS

APPENDIX
B

CITY:SYRACUSE DIV/GROUP:41 DB:NES LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
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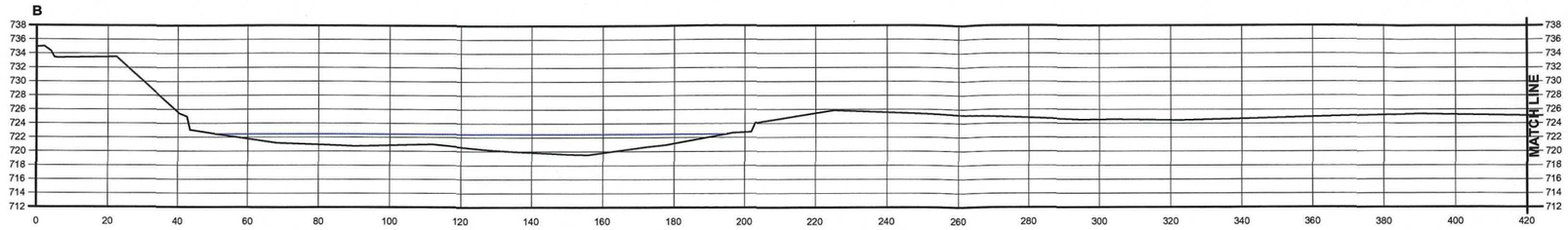
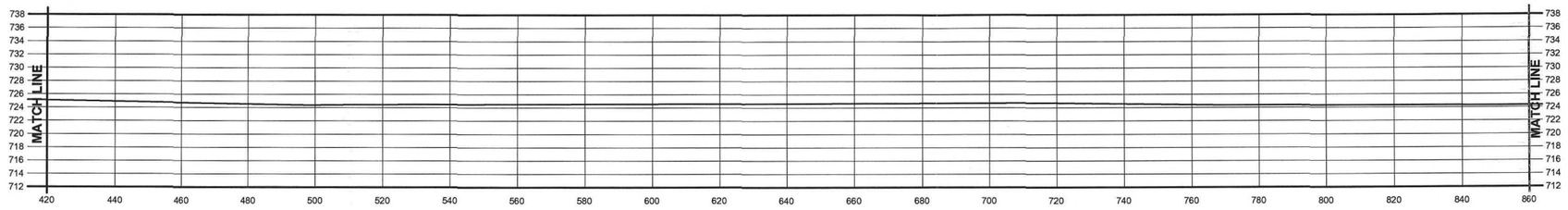
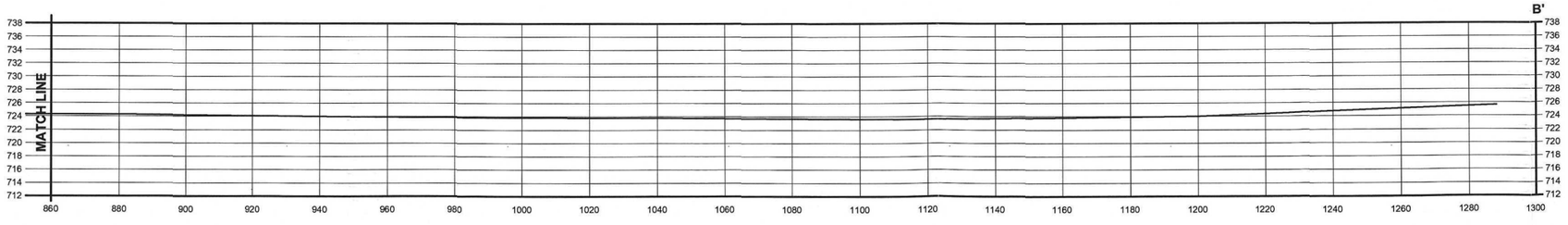






CROSS-SECTION B-B'

0 20' 40'
HORIZONTAL GRAPHIC SCALE

0 10' 20'
VERTICAL GRAPHIC SCALE

LEGEND:

SURFACE WATER

TOPOGRAPHIC PROFILE

NOTES:

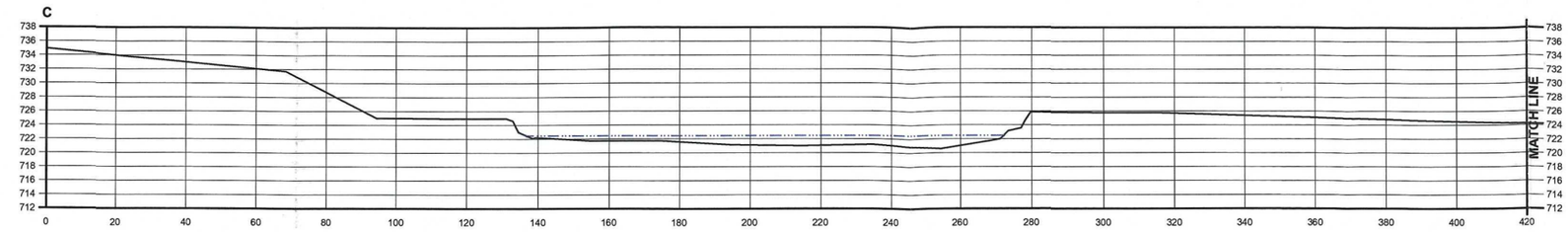
1. TOPOGRAPHIC PROFILE DISPLAYED WITH 2X VERTICAL EXAGGERATION.
2. ELEVATIONS REPORTED IN FEET REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

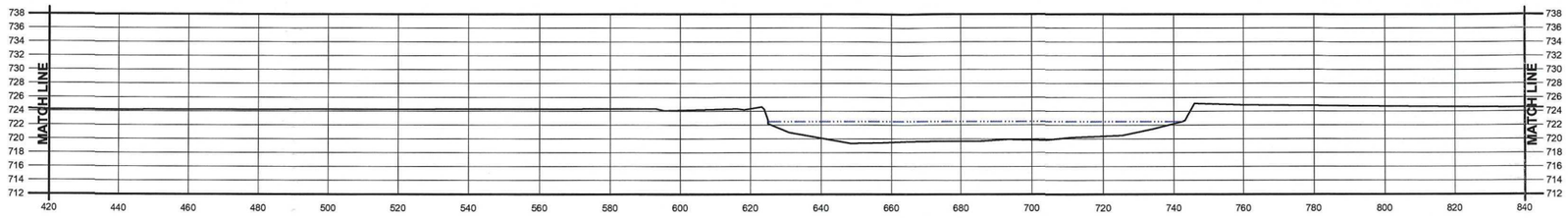
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC/PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

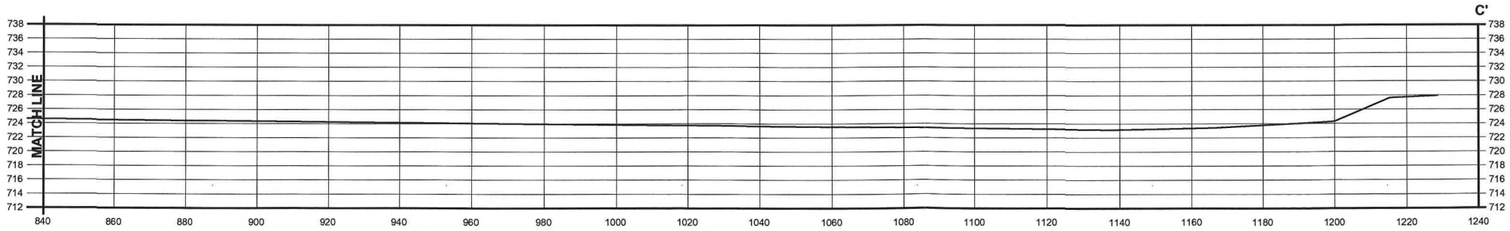
CROSS-SECTION B-B'

ARCADIS

APPENDIX
B







CROSS-SECTIONC-C'

0 20' 40'
HORIZONTAL GRAPHIC SCALE

0 10' 20'
VERTICAL GRAPHIC SCALE

LEGEND:

SURFACE WATER

TOPOGRAPHIC PROFILE

NOTES:

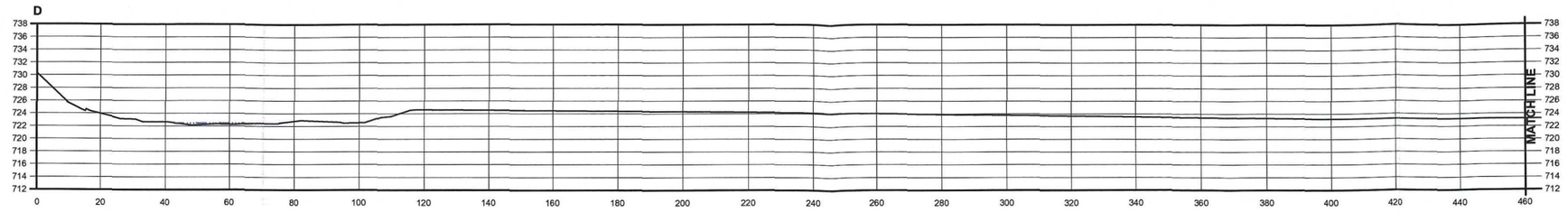
1. TOPOGRAPHIC PROFILE DISPLAYED WITH 2X VERTICAL EXAGGERATION.
2. ELEVATIONS REPORTED IN FEET REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

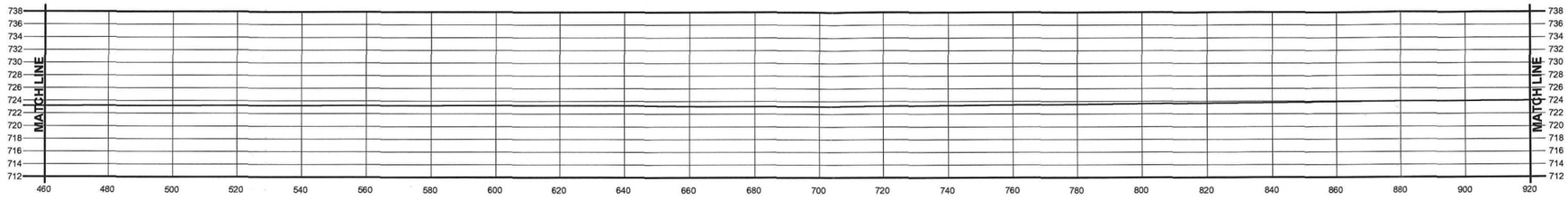
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC/PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

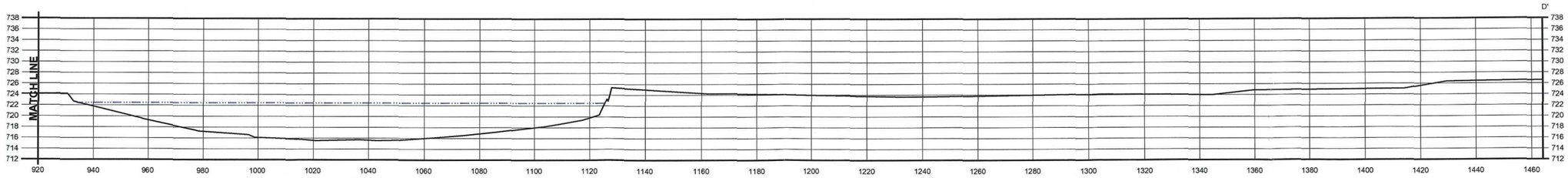
CROSS-SECTION C-C'

ARCADIS

APPENDIX
B







CROSS-SECTION D-D'

0 20' 40'
HORIZONTAL GRAPHIC SCALE

0 10' 20'
VERTICAL GRAPHIC SCALE

LEGEND:

- SURFACE WATER
- TOPOGRAPHIC PROFILE

NOTES:

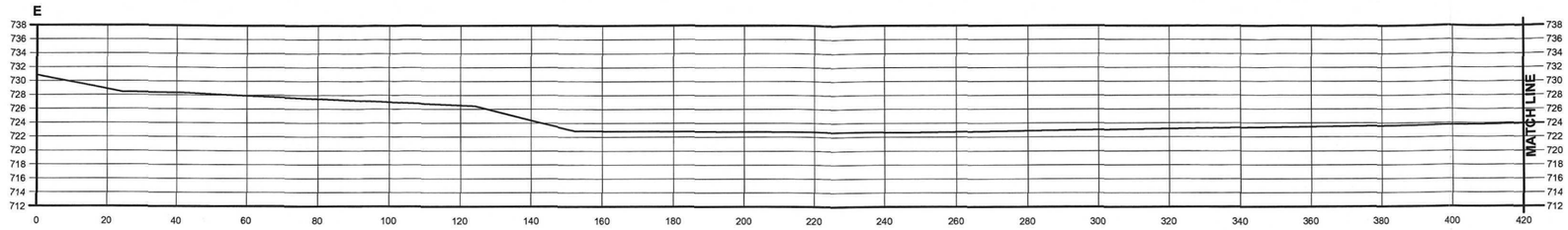
1. TOPOGRAPHIC PROFILE DISPLAYED WITH 2X VERTICAL EXAGGERATION.
2. ELEVATIONS REPORTED IN FEET REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

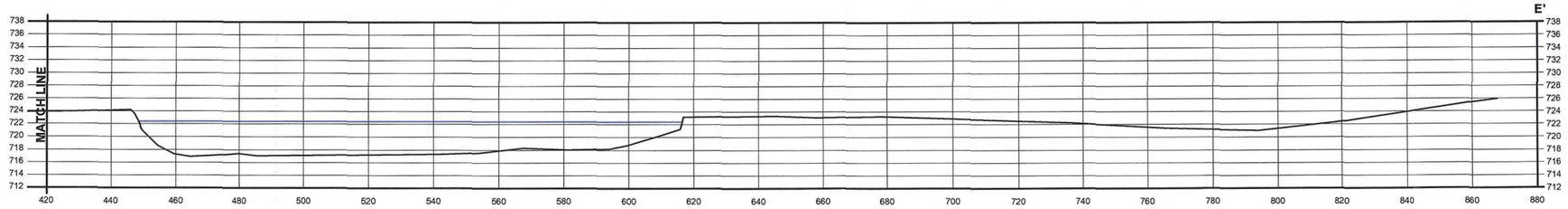
KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC/PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CROSS-SECTION D-D'

ARCADIS

APPENDIX
B





CROSS-SECTION E-E'

0 20' 40'
HORIZONTAL GRAPHIC SCALE

0 10' 20'
VERTICAL GRAPHIC SCALE

LEGEND:

- SURFACE WATER
- TOPOGRAPHIC PROFILE

NOTES:

1. TOPOGRAPHIC PROFILE DISPLAYED WITH 2X VERTICAL EXAGGERATION.
2. ELEVATIONS REPORTED IN FEET REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC/PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CROSS-SECTION E-E'

ARCADIS

APPENDIX
B

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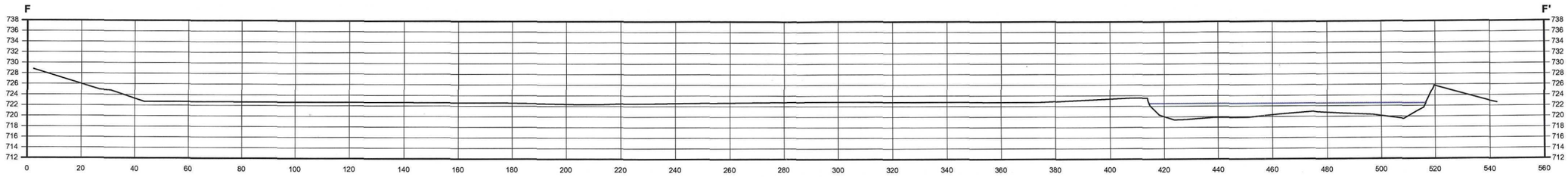

CROSS-SECTION F-F'

0 20' 40'
HORIZONTAL GRAPHIC SCALE

0 10' 20'
VERTICAL GRAPHIC SCALE

LEGEND:

- SURFACE WATER
- TOPOGRAPHIC PROFILE

NOTES:

1. TOPOGRAPHIC PROFILE DISPLAYED WITH 2X VERTICAL EXAGGERATION.
2. ELEVATIONS REPORTED IN FEET REFERENCE THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC/PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE
CONCEPTUAL DESIGN REPORT FOR BANK REMOVAL AND RESTORATION PLAINWELL NO. 2 DAM AREA

CROSS-SECTION F-F'

ARCADIS

APPENDIX
B

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Appendix C

Habitat Characterization Report

Introduction

This Habitat Characterization Report summarizes the results of habitat characterization efforts performed for the banks of the Kalamazoo River upstream of the Plainwell Dam in an area designated as Plainwell 2. The assessment area is defined by the railroad bridge at the eastern edge and the mill race at the western edge, a river length of approximately 6,000 feet (Figure C-1). The objectives of this evaluation were to:

- Characterize habitat types in the areas being considered for remediation
- Determine the average tree density in wooded portions of the site to assist in the restoration design for those habitats, if needed.

The evaluation was conducted by traveling the river, visiting representative areas of the observed habitat types, and classifying the habitats based on hydrologic conditions and vegetative assemblages. Vegetation changes observed on aerial photographs were used as reference points to help define the limits of the identified habitats within the assessment area. In addition, representative sample plots were established in forested habitats to quantify the number, species, and diameters of trees present in these habitats.

The assessment area was found to contain three primary community types:

- Emergent wetlands
- Floodplain forest
- Upland hardwood forest

The majority of the area exhibited floodplain elevations near or slightly higher than the top-of-bank elevations, resulting in floodplain wetlands that were defined by the dominance of either emergent herbaceous vegetation or trees. The occurrences of upland forest habitats in areas of higher bank elevations. The observed wetland and upland habitats are described below.

Emergent Wetlands

Emergent wetlands were observed in isolated areas within the reach, on and adjacent to islands, and inside meanders. The locations of the emergent wetland portions of the banks are illustrated in yellow on Figure C-1. The dominant vegetation observed in this habitat is listed in Table C-1 below.

Table C-1 Emergent Wetland Vegetation

Species	Common Name
Alliaria petiolata	Garlic Mustard
Asclepias incarnate	Swamp Milkweed
Carex spp.	Sedges
Convolvulus sepium	Hedge Bindweed
Echinacea pallid	Purple Coneflower
Eupatorium maculatum	Joe-Pye-Weed
Geum aleppicum	Avens
Hesperis matronalis	Dame's Violet
Impatiens capensis	Jewelweed
Lysimachia nummularia	Moneywort
Menispermum canadense	Moonseed
Parthenocissus quinquefolia	Virginia Creeper
Phalaris arundinacea	Reed Canary Grass
Pilea pumila	Clearweed
Potentilla norvegica	Rough Cinquefoil
Sagittaria latifolia	Arrowhead
Solanum dulcamara	Nightshade
Solidago spp.	Goldenrods
Symplocarpus foetidus	Skunk Cabbage
Thalictrum pubescens	Meadow Rue
Toxicodendron radicans	Poison Ivy
Typha augustifolia	Narrow-Leaf Cattail
Typha latifolia	Broad-Leaved Cattail
Utrica dioica	Stinging Nettle
Viola sororia	Blue Violet

Emergent wetlands exhibited hydrologic conditions that ranged between saturated soils at the ground surface to inundation with water depths of up to 8 inches. During habitat characterization field activities, river levels were just below bankfull, which may have increased the water elevations in site wetlands during the survey. Emergent wetlands exhibited a relatively flat topography from the edge of the river to the inland change of

habitat to either forested wetlands or uplands. This habitat typically did not support any trees, but exhibited 100% ground cover of herbaceous vegetation.

National Wetland Inventory (NWI) mapping was consulted to determine the classifications of the Kalamazoo River floodplain in the assessment area. NWI mapping indicates and classifies wetland systems as they relate to waterfowl habitat. NWI mapping for the assessment area identified palustrine emergent wetlands (PEM) at similar locations to those identified by this assessment (Figure C-2).

Floodplain Forest

The floodplain forest community exists along the majority of the banks in the assessment area. The locations of the floodplain forest habitat portions of the banks are illustrated in green on Figure C-1. The dominant vegetation observed in this habitat is listed in Table C-2 below.

Table C-2 Floodplain Forest Vegetation

Species	Common Name
Trees	
Acer saccharinum	Silver Maple
Platanus occidentalis	Sycamore
Acer negundo	Box Elder
Acer rubrum	Red Maple
Carpinus caroliniana	Ironwood
Celtis occidentalis	Hackberry
Fraxinus pennsylvanica	Green Ash
Juglans nigra	Black Walnut
Magnolia acuminata	Cucumber Magnolia
Quercus bicolor	Swamp White Oak
Rhamnus cathartica	Buckthorn
Robinia pseudo-acacia	Black Locust
Salix spp.	Willow
Tillia americana	Basswood
Ulmus americana	American Elm
Ulmus rubra	Slippery Elm
Shrubs	
Cephalanthus occidentalis	Buttonbush
Cornus racemosa	Gray Dogwood
Cornus sericea	Red-Osier Dogwood
Lindera benzoin	Spicebush
Lonicera tatarica	Tartarian Honeysuckle
Ribes triste	Red Currant
Rosa multiflora	Multiflora Rose
Rubus occidentalis	Black Raspberry
Sambucus canadensis	Elderberry

This habitat also exhibited a well-developed understory with numerous shrubs and tree saplings. The results of five tree-density survey plots established in the floodplain forest covertype are presented in Table B-3 below

Table C-3 Tree Plot Summary Table

Species	Diameter in Inches of Trees Present within Plot				
	Plot #1	**Plot #2**	**Plot #3**	**Plot #4**	**Plot #5**
Silver Maple	8, 9, 12, 13		14, 14, 18, 18, 22	5, 5, 6, 8, 10, 10, 12, 14, 14	
Box Elder	1.5				12
American Elm	3, 4, 6, 7, 7.5, 10.5		14, 24		
White Oak		20, 24			34
Basswood		2, 3, 3, 4, 4, 5, 6, 6, 8, 11, 14, 20			
Ironwood					1, 2, 2, 3, 4, 4, 4

NWI mapping for the assessment area identified palustrine forested wetlands (PFO1C) as occupying the majority of the assessment area (Figure C-2). Several of the tree species present in this habitat produce mast that provide a potential food source for tree-dwelling mammals, such as squirrels, and ground-dwelling small mammals, such as chipmunks, mice, and voles. This habitat also could provide foraging habitat for carnivorous mammals, such as mink and weasels, which feed on the small mammals. Larger mammals, such as deer and woodchuck, could also forage in this habitat. The large trees also provide nesting habitat for squirrels and a variety of bird species.

Upland Hardwood Forest

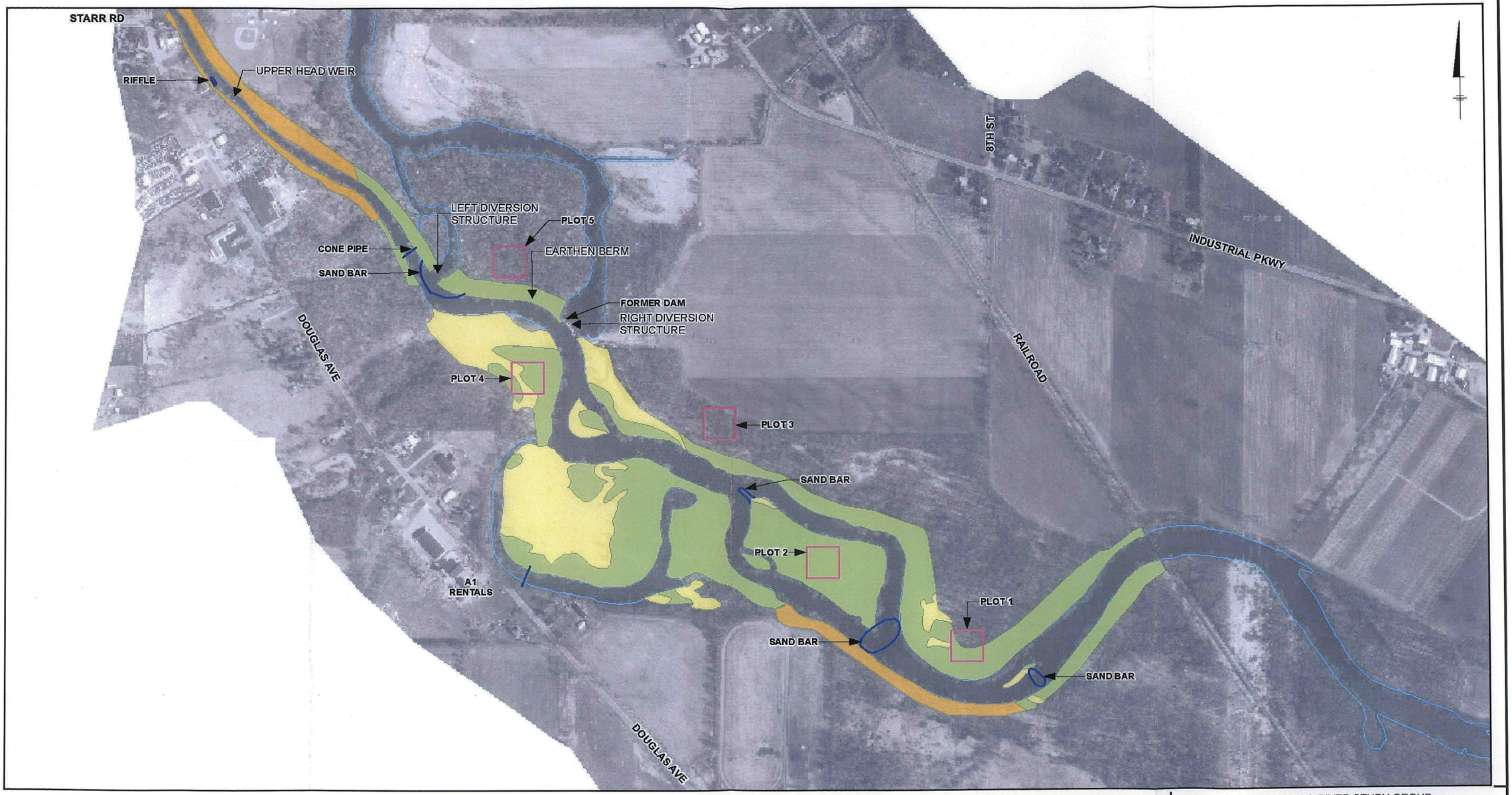
The upland hardwood forest community exists along the select portions of bank that have been created at steep slopes that provide a barrier for high flow events to flood the floodplain. The locations of the upland hardwood forest habitat portions of the banks are illustrated in orange on Figure C-1. The dominant vegetation observed in this habitat is listed in Table B-4 below.

Table C-4 Upland Hardwood Forest Vegetation

Species	Common Name
Trees	
Acer negundo	Box Elder
Acer saccharinum	Silver Maple
Celtis occidentalis	Hackberry
Fraxinus americana	White Ash
Fraxinus pennsylvanica	Green Ash
Morus sp.	Mulberry
Ostrya virginiana	Hophornbeam
Platanus occidentalis	Sycamore
Prunus serotina	Black Cherry
Quercus alba	White Oak
Quercus bicolor	Swamp White Oak
Quercus rubra	Red Oak
Rhamnus cathartica	Buckthorn
Robinia pseudo-acacia	Black Locust
Salix spp.	Willow
Tillia americana	Basswood
Ulmus americana	American Elm
Shrubs	
Cornus racemosa	Gray Dogwood
Crataegus sp.	Hawthorn
Lindera benzoin	Spicebush
Lonicera tatarica	Tartarian Honeysuckle
Prunus virginiana	Choke Cherry

Species	***Common Name***
Ribes triste	Red Currant
Rosa multiflora	Multiflora Rose
Rubus occidentalis	Raspberry
Sambucus canadensis	Elderberry
Viburnum acerifolium	Maple Leaf Viburnum

This habitat also exhibited a well-developed understory with numerous shrubs and tree saplings. NWI mapping for the assessment area did not identify any wetlands in the areas identified as upland hardwood forest. Several of the tree species present in this habitat produce mast that provide a potential food source for tree-dwelling mammals, such as squirrels, and ground-dwelling small mammals, such as chipmunks, mice, and voles. This habitat also could provide foraging habitat for carnivorous mammals, such as mink and weasels that feed on the small mammals. Larger mammals, such as deer and woodchuck, could also forage in this habitat. The large trees also provide nesting habitat for squirrels and a variety of bird species.



LEGEND:

- TREE SURVEY PLOT LOCATION (APPROXIMATE)
- FLOODPLAIN FOREST
- EMERGENT WETLAND
- UPLAND FOREST
- SHORELINE

0 600 1,200 Feet

GRAPHIC SCALE

KALAMAZOO RIVER STUDY GROUP
ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE

HABITAT CHARACTERIZATION REPORT

HABITAT CHARACTERIZATION FIELD MAP

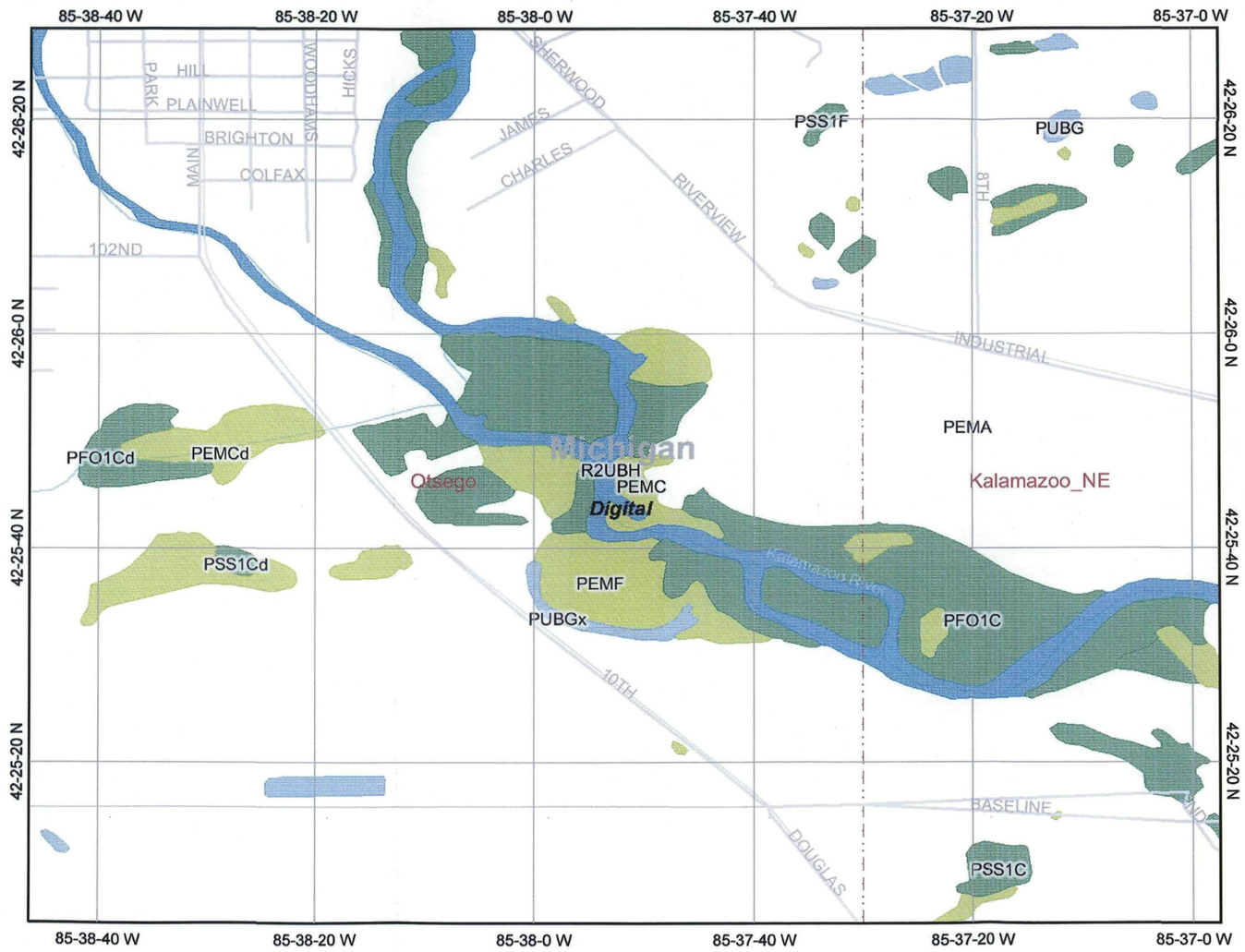
ARCADIS

FIGURE **C-1**

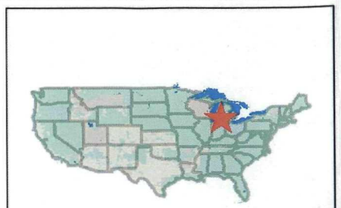
110308-DIV90-MFE
KALAMAZOO/PLANIWELL NO2/APX C FIGS.CDR

SYR-90 AMB
KRSG (64539,500)
Q:\KRSG\Morrow\DamToPlainwell\DamISR\ DamNo2RemovalActionScoping\mxd\Field Map - Habitat Characterization.mxd - 10/22/2008 @ 4:20:51 PM

Internet Mapping Framework



Map center: 42° 25' 47" N, 85° 37' 52" W



Legend

Ohio_wet_scan
- 0
- 1
- Out of range

Interstate

Major Roads
- Other Road
- Interstate
- State highway
- US highway

Roads

Cities

USGS Quad Index 24K

Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan

NHD Streams

Counties 100K

States 100K

South America

North America

N

Scale: 1:18,080

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

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HABITAT CHARACTERIZATION REPORT

NATIONAL WETLAND INVENTORY MAPPING – PLAINWELL NO. 2 DAM AREA

ARCADIS

FIGURE
C-2

110308-DIV90-MFE
KALAMAZOO/PLAINWELL NO2/APX C FIGS.CDR